EG&G A Division of URS	**DESIGN ANALYSIS REPORT** ENGINEERING	DATE 8/7/2008

TITLE	AUTHOR	EWR NO.
Drum Ventilation System Sorting Room (DVSSR) Design - Structure	Stacey Nicholes	379604

DISCIPLINE: Mechanical	ECP NO. EN-4554-00

REV	CHECKER	DATE	REV	CHECKER	DATE	REV	CHECKER	DATE

BACKGROUND, OBJECTIVE, REQUIREMENTS:

From inception of operations at TOCDF, the secondary wastes were planned to be treated at TOCDF exclusively. This is a requirement of the TOCDF RCRA permit. As operational experience has matured, it has been recognized that treatment of all the wastes at TOCDF may not be practical. Based on the amount and type of wastes generated during the different campaigns, other treatment methods and/or offsite shipment options are being developed.

Part of the Secondary Waste Campaign strategy is to ship secondary waste (SW) offsite if headspace monitoring results are below 1 VSL. Testing to validate that headspace concentrations below 1 VSL are sufficient to characterize the waste as below the Waste Control Limit (WCL) is in progress and a permit modification request (TOCDF-WAP-02-0989) to allow characterization of waste DPE suits which were monitored after use at less than 1 VSL during the airlock exit process to be characterized by headspace monitoring is being reviewed by the DSHW. Additional permit modification requests would be submitted for other waste categories as appropriate. In order to accomplish headspace monitoring for SW characterization in a safe and cost effective manner, the Drum Ventilation System (DVS) and the Drum Ventilation System Sort Room (DVSSR) will be designed and installed inside Igoo-1632 at Area-10. Testing is also in progress to validate the concept that the agent concentration in the drum headspace is representative of the concentration in the headspace above the waste contained in bags inside the drum. If this concept is validated, then the DVS could be used to monitor the drum headspace without opening the drum, and if less than 1 VSL, the drum could become a candidate for offsite disposal without any further handling. If this concept is not validated, the DVS could still be used to monitor the drum headspace to guide subsequent processing prior to opening the drum for waste handling in the DVSSR.

It is proposed to install a Drum Ventilation System Sorting Room (DVSSR) to safely perform operations to unpack SWCs, sort secondary waste materials, and repack SWCs. The DVSSR will allow for physical entry to open drums and remove contents within a ventilated enclosure providing agent vapor and liquid containment. In this enclosure personnel will perform sampling of different waste streams, sorting and categorization of waste according to approved profiles, have the capability to perform headspace sampling, be able to verify SWC contents, and repackage SWCs.

This design analysis report will cover the design for the structure of the DVSSR enclosure.

A team was established in the early stages of the design to determine design criteria for the DVS. The following is the list of requirements that was developed.

1. DVSS Operations
    a. Operations Allowed:
        1. Open Drums and remove contents
        2. Monitor and classify drum contents
    b. Operations will attempt to process waste according to type, i.e. DPE suits…

2. DVSSR Enclosure
    a. The DVS is to be designed to allow the following containers to be placed inside of the enclosure at one time:
        1. 4 – drums on the conveyors and up to 4 drums within the sorting room
    b. The DVS will be constructed from carbon steel and all exposed surfaces are to be painted with epoloid.
    c. Lighting is to be inside of the DVSSR.
    d. No Glove ports required
    e. Roof will be designed to hold up to 500 pounds suspended from the ceiling on a monorail system to allow for drum handling.
    f. The DVSSR input door will be designed with the following considerations:
        1. The door will open by sliding to the side
        2. The door will closed tight by clamping shut
        3. The door will have the following indications
            - Clamped
            - HVAC normal
    g. DVSSR WILL NOT be electrically designed to be explosion proof
    h. Grounding will be provided for the DVSSR.

3. Conveyor Design

a. Non motorized, free roller design
b. The outside conveyor will be designed to be movable, free standing, allows fork lift to move the conveyor for access to other side
c. Drums weight is assumed to be 600 lbs each. Maximum number of drums allowed in tray is 4.

4. HVAC
   a. DVSSR will have cascading ventilation
   b. The door to the DVSSR will require that the HVAC be equalized to the room before it can be opened. This may be done by isolation the HVAC.
   c. Will use existing ventilation ducting were possible

5. Utilities
   a. The following utility drops will be included in each DVSSR
      1. Compressed air
      2. Process water
      3. Decon
      4. extra fittings for spares.

6. Containment
   a. Primary Containment: Container i.e. 55 gallon drum
   b. Secondary Containment: Transfer tray located on conveyor and the DVSSR
      1. The trays WILL NOT be used to transfer barrels to and from the input conveyors. The barrels will be moved independently.
      2. Trays will be designed to contain the contents of either 10% of total waste or one 55 gallon drum.
      3. Trays will be constructed from Carbon Steel and painted with epoloid.

7. SDS
   a. The DVSSR will be designed to allow any SDS that breached the primary containment to be drained and pumped to the SDS holding tank
   b. The drain system will use lined pipe

8. Drum Sampling
   a. Method TBD
   b. Exit criteria for waste TBD

9. ACAMS
   a. Monitoring for GB and VX agents at the same time in the airlocks as well as the sorting room.

1. DESIGN INPUTS, SPECIFICATIONS, REFERENCES:

Specifications:
09900 – Painting General

References:
Roark's Formulas for Stress and Strain 7TH edition
Parker O-Ring Handbook – ORD 5700

2. DESIGN INTERFACES:

Cory Mecham – Secondary Waste Project Specialist, provided input on the requirements for the DVSSR.
Troy Worthen – Secondary Waste Processing Manager, provided input on the requirements for the DVSSR.
Steve Lane – Area 10 System Engineer, provided input on the requirements for the DVSSR as well as the utilities design for the DVSSR.
Dan Dekock – HVAC System Engineer, developed HVAC design

3. DESIGN ANALYSIS/LOGIC:

Calculation 1 – Door Seal

The combination of internal pressure within the enclosure, clamp force, seal compression needs to be considered to ensure proper sealing. In particular, the pneumatic clamps must exert enough force to overcome the internal pressure and seal compression. The door is clamped to the side of the enclosure using 10 DE-STA-CO model 802-U clamps on the top, bottom and sides each exerting a force of 200 lbs. The door is bounded horizontally by the clamp arms and the enclosure itself. A pressure of 3 inwc is applied to the inside of the enclosure and is assumed to be uniform over the inside face of the door. The gasket must be compressed to seal the door therefore exerts a force on the lid.

Calculation 2 – Enclosure frame
The enclosure frame was analyzed using a FEA modular called Algor. The frame was modeled with the end corners and middles pinned and the load of 500 lbs pointed loaded for the overhead trolley as well as the load of 100 psf was distributed on the grating members.

4. DESIGN CALCULATIONS:

See attached Mathcad and Algor calculations.

5. DESIGN DRAWINGS:

Drawing Number	Rev	Description
EG-22-G-8219, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) Igloo 1632 General Arrangement Plan
EG-22-G-8220, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – General Arrangement Plan
EG-22-H-8220, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – HVAC Airflow and Control Diagram
EG-22-M-8220, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – General Assembly
EG-22-M-8221, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Airlock Drain Pan Assembly
EG-22-M-8221, sheet 2	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Airlock Drain Pan Assembly
EG-22-M-8222, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Sorting Room Drain Pan Assembly
EG-22-M-8222, sheet 2	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Sorting Room Drain Pan Assembly
EG-22-M-8222, sheet 3	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Sorting Room Drain Pan Assembly
EG-22-M-8223, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Lower Frame Assembly
EG-22-M-8224, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Lower Enclosure Assembly
EG-22-M-8225, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Enclosure Frame Assembly
EG-22-M-8225, sheet 2	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Enclosure Frame Assembly
EG-22-M-8226, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Enclosure Skin Assembly
EG-22-M-8227, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Door Assembly
EG-22-M-8228, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Door Trolley Assembly
EG-22-M-8229, sheet 1	0A	Off Site Area 10 – Secondary Waste Sampling (SWS) DVSSR – Door & Window Details
EG-22-D-8204, sheet 1	5A	Off Site Area 10 – 1632 P&ID Sheet #3

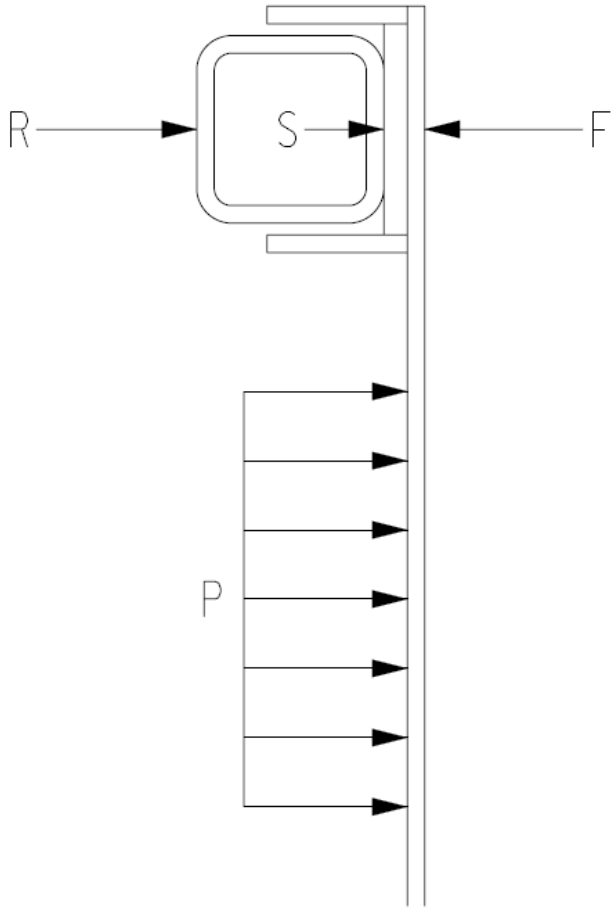
6. OTHER

Conclusions:
Calculation 1 – Door Seal
The calculations shows that with worst case conditions that the clamps would need to have a required exerting force of 75.4 lbs. Each clamp is rated as having a exerting force of 200 lbs.

Calculation 2 - Enclosure frame
The enclosure frame was analyzed and was found to be acceptable.

Calulation 1
Door Seal

The below figure depicts the loading on a section of the door:



Where
F=Force of the clamps
P=Pressure from inside of the enclosure
R=Reaction force from the enclosure
S=Compression force from the spring of the gasket

Pressure Conversion:
Pressure is given in inches of water column and must be converted to pounds per square inch to be used in the following formulas.

Given: 3 inwc
Conversion: 1 inwc = .074 in_Hg
Conversion: 1 in_Hg = 0.491 psi

$$3 \cdot \frac{.074}{1} \cdot \frac{.491}{1} = 0.109$$

Therefore 3 inwc is equal to 0.109 psi.

Calulation 1
Door Seal

Pressure from inside of enclosure
The interior surface of the door that will have the pressure against it is 47.38" high X 57.38" wide or an area of 2719 sq in

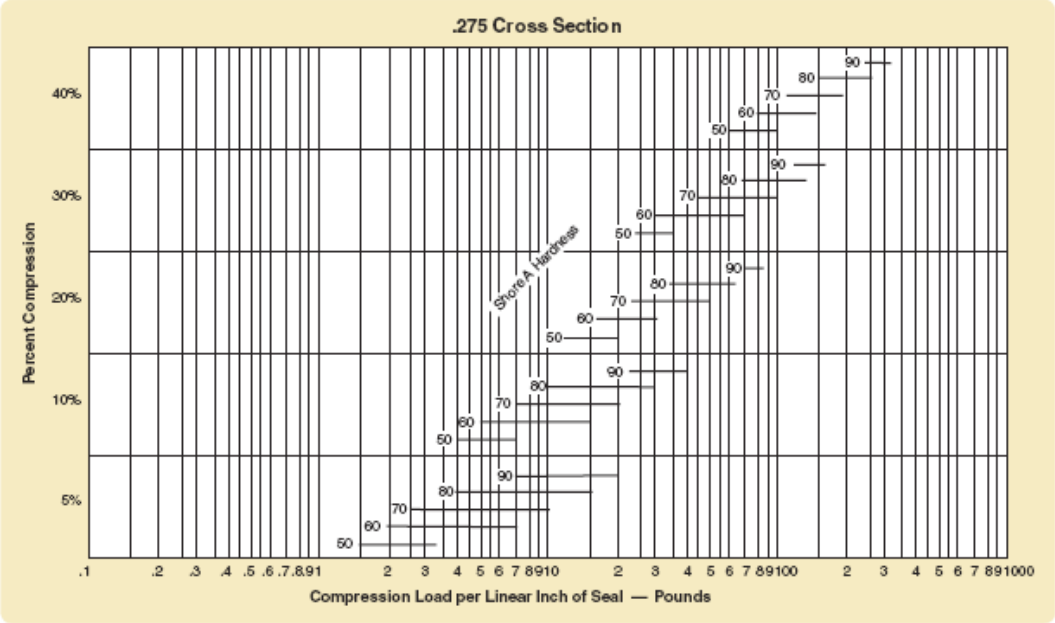
$$P := 0.109 \cdot psi \cdot 2719 \cdot in^2$$

$$P = 296.371\ lbf$$

Seal Compression
Using the O-ring book from Parker expresses the compression force exerted by the seal as a function of the cross-sectional area of the seal, the durometer of the material, the compression as a percentage of the cross-sectional area, and the length of the seal. This is given in the form of chart.

The clamps come standard with a spindle. This spindle cap diameter of 0.63"

Parkers chart only go up to a cross sectional area of 0.275. This will be used as a worse case scenerio. The chart also only list 50 durometer and above. This will be used for a worst case scenerio. Bellow is the chart from Parker.



The chart shows a compression force of 2 lbs/in at a total compression of 20% of the area. The perimeter of the seal is 229 in. The total compression force is given by:

$$S := 2 \cdot \frac{lb}{in} \cdot 229 \cdot in$$

$$S = 458\ lb$$

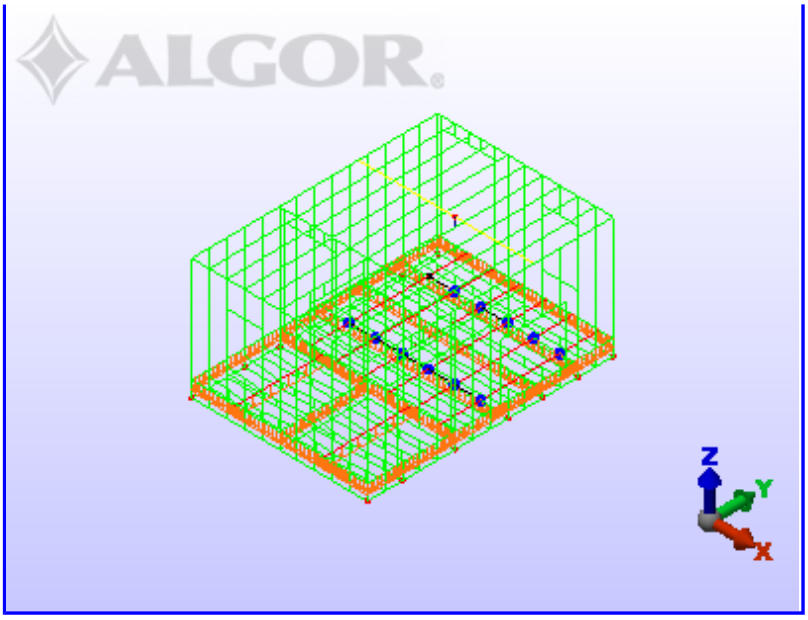
Calulation 1
Door Seal

Reaction Force from Enclosure
Considering the door and seal as on the reaction forces would be S+P

$$296.371 + 458 = 754.371$$

Given that there are 10 clamps the required force per clamp is 75.4 lbs. Each clamp as a exerting force of 200 lbs

Design Analysis



Last updated on 8/7/2008.

Project reviewed on 8/7/2008.

Summary

Model Information

Analysis Type - Static Stress with Linear Material Models
Units - English (in) - (lbf, in, s, deg F, deg F, V, ohm, A, in*lbf)
Model location - C:\0stacey\0Current_design\379604 (DVSSR Enclosure)\dvssr algor\DVSSR FINAL.fem
Design scenario description - Design Scenario # i

Analysis Parameters Information

Load Case Multipliers

Static Stress with Linear Material Models may have multiple load cases. This allows a model to be analyzed with multiple loads while solving the equations a single time. The following is a list of load case multipliers that were analyzed with this model.

Load Case	Pressure/Surface Forces	Acceleration/Gravity	Displaced Boundary	Thermal	Voltage
1	1	1	0	0	0

Gravity Information

The following lists the values used if acceleration or gravity was included in the analysis. The Acceleration/Gravity direction multiplier is multiplied by the Acceleration Due To Body Force which is then multiplied by the Acceleration/Gravity load case multiplier.

Acceleration Due To Body Force = 386.4 in/s^2

Acceleration/Gravity X Multiplier	Acceleration/Gravity Y Multiplier	Acceleration/Gravity Z Multiplier
0	0	-1

Multiphysics Information

Default Nodal Temperature	0 °F
Source of Nodal Temperature	None
Time step from Heat Transfer Analysis	Last

Processor Information

Type of Solver	Automatic
Disable Calculation and Output of Strains	No
Calculate Reaction Forces	Yes
Invoke Banded Solver	Yes
Avoid Bandwidth Minimization	No
Stop After Stiffness Calculations	No
Displacement Data in Output File	No
Stress Data in Output File	No
Equation Numbers Data in Output File	No
Element Input Data in Output File	No
Nodal Input Data in Output File	No
Centrifugal Load Data in Output File	No

Part Information

Part ID	Part Name	Element Type	Material Name
1	Part 1	Beam	Steel (ASTM A36)
2	Part 2	Beam	Steel (ASTM A36)
3	Part 3	Beam	Steel (ASTM A36)

Element Properties used for:

- Part 1

Element Type	Beam
Stress Free Reference Temperature	0 °F
Layer 1 - Area	1.51
Layer 1 - SA2	0
Layer 1 - SA3	0
Layer 1 - J1	1.31
Layer 1 - I2	0.747
Layer 1 - I3	0.747

Layer 1 - S2	0.747
Layer 1 - S3	0.747

Element Properties used for:

- Part 2

Element Type	Beam
Stress Free Reference Temperature	0 °F
Layer 1 - Area	1.19
Layer 1 - SA2	0
Layer 1 - SA3	0
Layer 1 - J1	1.09
Layer 1 - I2	0.641
Layer 1 - I3	0.641
Layer 1 - S2	0.641
Layer 1 - S3	0.641

Element Properties used for:

- Part 3

Element Type	Beam
Stress Free Reference Temperature	0 °F
Layer 1 - Area	3.66
Layer 1 - SA2	0
Layer 1 - SA3	0
Layer 1 - J1	0.167
Layer 1 - I2	1.8
Layer 1 - I3	22
Layer 1 - S2	1.08
Layer 1 - S3	7.34

Material Information

Steel (ASTM - A36) -Beam

Material Model	Standard
Material Source	ALGOR Material Library
Material Source File	C:\Program Files\ALGOR\20.04\matlibs\algormat.mlb
Date Last Updated	2004/09/30 -16:00:00
Material Description	Structural Steel
Mass Density	7.35e -4 lbf*s^2/in/in ^{3}
Modulus of Elasticity	29e6 lbf/in ^{2}
Poisson's Ratio	0.29
Thermal Coefficient of Expansion	6.5e -6 1/°F

Load and Constraint Information

Loads

FEA Object Group 1: Nodal Forces

Nodal Force

ID	Description	Vertex ID	Node Number	Vx	Vy	Vz	Magnitude	Multiplier Table ID
1	Unnamed	1710	539	0.000000	0.000000	1.000000	-12.000000	1

FEA Object Group 3: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
1	Unnamed	24	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
2	Unnamed	25	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
3	Unnamed	29	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
4	Unnamed	28	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
5	Unnamed	27	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
6	Unnamed	30	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
7	Unnamed	33	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
8	Unnamed	36	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
9	Unnamed	875	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
10	Unnamed	228	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
11	Unnamed	109	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
12	Unnamed	113	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
13	Unnamed	872	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
14	Unnamed	244	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
15	Unnamed	226	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
16	Unnamed	227	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
17	Unnamed	873	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
18	Unnamed	225	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
19	Unnamed	871	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
20	Unnamed	874	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
21	Unnamed	641	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
22	Unnamed	621	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
23	Unnamed	637	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
24	Unnamed	619	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
25	Unnamed	612	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
26	Unnamed	2	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
27	Unnamed	243	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
28	Unnamed	640	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
29	Unnamed	610	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
30	Unnamed	611	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
31	Unnamed	636	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
32	Unnamed	614	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
33	Unnamed	615	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000

34	Unnamed	616	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
35	Unnamed	638	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
36	Unnamed	851	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
37	Unnamed	848	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
38	Unnamed	639	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
39	Unnamed	643	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
40	Unnamed	926	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
41	Unnamed	620	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
42	Unnamed	642	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
43	Unnamed	618	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
44	Unnamed	613	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
45	Unnamed	1	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
46	Unnamed	849	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
47	Unnamed	930	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
48	Unnamed	1011	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
49	Unnamed	1010	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
50	Unnamed	934	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
51	Unnamed	935	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
52	Unnamed	931	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
53	Unnamed	933	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000
54	Unnamed	937	-12.300000	0.000000	0.000000	1.000000	-12.300000	0.000000	0.000000	1.000

FEA Object Group 9: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
55	Unnamed	633	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
56	Unnamed	634	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
58	Unnamed	911	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
59	Unnamed	609	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
60	Unnamed	663	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
61	Unnamed	664	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
62	Unnamed	648	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
63	Unnamed	649	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
64	Unnamed	573	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
66	Unnamed	568	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
67	Unnamed	569	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
68	Unnamed	311	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
69	Unnamed	314	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
70	Unnamed	318	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
72	Unnamed	571	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
73	Unnamed	601	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
74	Unnamed	803	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
75	Unnamed	658	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
76	Unnamed	659	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
77	Unnamed	660	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

81	Unnamed	625	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
82	Unnamed	628	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
83	Unnamed	804	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
84	Unnamed	805	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
85	Unnamed	635	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
87	Unnamed	646	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
88	Unnamed	647	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
89	Unnamed	575	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
90	Unnamed	576	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
93	Unnamed	602	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
94	Unnamed	604	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
98	Unnamed	629	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
99	Unnamed	630	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
100	Unnamed	606	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
101	Unnamed	608	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
102	Unnamed	624	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
103	Unnamed	631	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
104	Unnamed	632	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
105	Unnamed	801	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
109	Unnamed	661	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
110	Unnamed	662	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
112	Unnamed	925	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

FEA Object Group 10: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
113	Unnamed	1035	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
114	Unnamed	1034	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
115	Unnamed	1028	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
116	Unnamed	1022	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
117	Unnamed	1029	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
118	Unnamed	1024	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
119	Unnamed	1023	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
120	Unnamed	1026	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
121	Unnamed	1021	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
122	Unnamed	1027	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
123	Unnamed	1030	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
124	Unnamed	1025	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

FEA Object Group 11: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
125	Unnamed	1041	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

126	Unnamed	1040	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

FEA Object Group 12: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
127	Unnamed	1032	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

FEA Object Group 13: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
128	Unnamed	1036	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
129	Unnamed	1037	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

FEA Object Group 14: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
130	Unnamed	1033	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

FEA Object Group 15: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
131	Unnamed	1039	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
132	Unnamed	1038	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

FEA Object Group 16: Beam Distributed Loads

Beam Distributed Load

ID	Description	Line ID	Magnitude-I	Vx-I	Vy-I	Vz-I	Magnitude-J	Vx-J	Vy-J	Vz
133	Unnamed	1043	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000
134	Unnamed	1042	-12.000000	0.000000	0.000000	1.000000	-12.000000	0.000000	0.000000	1.000

Constraints

FEA Object Group 2: Nodal Boundary Conditions

Nodal Boundary Condition

ID	Description	Vertex ID	Node Number	Tx	Ty	Tz	Rx	Ry	Rz
1	Unnamed	1	1	Yes	Yes	Yes	No	No	No
2	Unnamed	28	15	Yes	Yes	Yes	No	No	No
3	Unnamed	498	191	Yes	Yes	Yes	No	No	No
4	Unnamed	474	178	Yes	Yes	Yes	No	No	No
5	Unnamed	1710	539	Yes	Yes	Yes	No	No	No

FEA Object Group 5: Nodal Boundary Conditions

Nodal Boundary Condition

ID	Description	Vertex ID	Node Number	Tx	Ty	Tz	Rx	Ry	Rz
8	Unnamed	164	63	Yes	Yes	Yes	No	No	No
9	Unnamed	536	206	Yes	Yes	Yes	No	No	No

FEA Object Group 6: Nodal Boundary Conditions

Nodal Boundary Condition

ID	Description	Vertex ID	Node Number	Tx	Ty	Tz	Rx	Ry	Rz
11	Unnamed	164	63	Yes	Yes	Yes	No	No	No
21	Unnamed	536	206	Yes	Yes	Yes	No	No	No

FEA Object Group 7: Nodal Boundary Conditions

Nodal Boundary Condition

ID	Description	Vertex ID	Node Number	Tx	Ty	Tz	Rx	Ry	Rz
23	Unnamed	206	80	Yes	Yes	Yes	No	No	No
24	Unnamed	530	202	Yes	Yes	Yes	No	No	No
25	Unnamed	542	210	Yes	Yes	Yes	No	No	No

FEA Object Group 8: Nodal Boundary Conditions

Nodal Boundary Condition

ID	Description	Vertex ID	Node Number	Tx	Ty	Tz	Rx	Ry	Rz
26	Unnamed	140	50	Yes	Yes	Yes	No	No	No
27	Unnamed	281	114	Yes	Yes	Yes	No	No	No
28	Unnamed	569	227	Yes	Yes	Yes	No	No	No
29	Unnamed	573	229	Yes	Yes	Yes	No	No	No
30	Unnamed	565	225	Yes	Yes	Yes	No	No	No

Processor Output

Processor Summary

```
 ALGOR (R) Static Stress with Linear Material Models
 Version 20.03.01.0013   -WIN 14 -AUG -2007
 Copyright (c) 2007, ALGOR, Inc. All rights reserved.

 **** Memory Dynamically Allocated = 523304 KB
-------------------------------------------------
                      DATE: AUGUST 7, 2008
                      TIME: 12:37 PM
                INPUT MODEL: C:\0stacey\0Current\_design\379604 (DVSSR Enclosure)\dvssr algor\DVSSR FINAL.ds_data\1\ds

            PROGRAM VERSION: 2003010013
            alg.dll VERSION: 2004010004
       agsdb_ar.dll VERSION: 1800000000
      algconfig.dll VERSION: 2002000064
       algsolve.exe VERSION: 2000000463
       amgsolve.exe VERSION:  330000000

-------------------------------------------------

      Structural

1**** CONTROL INFORMATION

      number of node points          (NUMNP)   =           562
      number of element types        (NELTYP)  =             3
      number of load cases           (LL)      =             1
      number of frequencies          (NF)      =             0
      analysis type code             (NDYN)    =             0
      equations per block            (KEQB)    =             0
      bandwidth minimization flag    (MINBND)  =             0
      gravitational constant         (GRAV)    =    3.8640E+02
      number of equations            (NEQ)     =          3291

 **** PRINT OF NODAL DATA SUPPRESSED
 **** PRINT OF EQUATION NUMBERS SUPPRESSED
 **** PRINT OF TYPE   -2 ELEMENT DATA SUPPRESSED
 **** PRINT OF TYPE   -2 ELEMENT DATA SUPPRESSED
 **** PRINT OF TYPE   -2 ELEMENT DATA SUPPRESSED
 **** Hard disk file size information for processor:

      Available hard disk space on current drive =  51671.082 megabytes

      Gravity direction vector =  0.0000E+00  0.0000E+00        -1.0000E+00
Warning: Ignoring force applied to constrained DOF Tz at node=     539

1**** NODAL LOADS (STATIC) OR MASSES (DYNAMIC)

   NODE  LOAD     X  -AXIS     Y -AXIS     Z -AXIS     X -AXIS     Y -AXIS     Z -AXIS
  NUMBER CASE      FORCE      FORCE      FORCE     MOMENT     MOMENT     MOMENT


1**** ELEMENT LOAD MULTIPLIERS

      load case      case A     case B     case C     case D     case E
       ---------     ----------  ----------  ----------  ----------  ----------

          1         1.000E+00  1.000E+00  0.000E+00  0.000E+00  0.000E+00

 **** Invoking Parallel BCSLIB    -EXT Sparse Solver ...

 **** Symbolic Assembling Using the Row     -Hits Matrix Profile ...
 **** Assembled in One Block.
 **** Real Sparse Matrix Assembly ...

1**** STIFFNESS MATRIX PARAMETERS

      minimum non  -zero diagonal element =           1.2042E+03
      maximum diagonal element          =           1.0648E+12
      maximum/minimum                   =           8.8423E+08
      average diagonal element          =           1.3111E+09

      the minimum is found at equation 3157: node=534 Tx
      the maximum is found at equation 2607: node=442 Tz

      in the upper off   -diagonal matrix:
      number of entries in the profile  = 58440
      number of symbolic nonzero entries= 43239
      number of real nonzero entries    = 14935
 **** Sparse Matrix Assembled in One Block
```

```
**** Load case 1
**** 50.2% of available memory is allocated for the sparse solver
        memory required for the in    -core solving:       2403 kbs
    memory required for the out    -of-core solving:        981 kbs
                    memory currently allocated:     161250 kbs
**** End Sparse Solver Solution


               Reaction Sums and Maxima for Load Case       1

     Sum of applied forces
        X -Force     Y -Force     Z -Force    X -Moment    Y -Moment    Z -Moment
     -1.1726E -09  1.6250E -09 -2.7720E+04  4.2633E  -13  0.0000E+00   -1.0986E -25

     Sum of reactions
        X -Force     Y -Force     Z -Force    X -Moment    Y -Moment    Z -Moment
     -2.9634E -12  4.3698E -13  1.6485E -12 -1.4899E -10  4.1987E -09 -6.3009E -09

     Sum of residuals
        X -Force     Y -Force     Z -Force    X -Moment    Y -Moment    Z -Moment
     -1.1761E -09  1.6257E -09 -2.7720E+04  -1.4953E -10  4.1987E -09 -6.3009E -09

     Sum of unfixed direction residuals
        X -Force     Y -Force     Z -Force    X -Moment    Y -Moment    Z -Moment
     1.1828E  -09 -4.2753E -08 -5.5792E -07 -1.4953E -10  4.1987E -09 -6.3009E -09

     Largest applied forces and moments
           Node         Node         Node         Node         Node         Node
        X -Force     Y -Force     Z -Force    X -Moment    Y -Moment    Z -Moment
             375          392          375          375          397          378
     -6.8880E -11  4.3260E -11 -6.0735E+02  -6.5600E+03  7.5625E+02    -9.2583E -10

     Largest nodal reactions
           Node         Node         Node         Node         Node         Node
        X -Force     Y -Force     Z -Force    X -Moment    Y -Moment    Z -Moment
              50           15           50          376          553          537
     3.4481E+03   -3.8146E+02  -3.5414E+03  -6.5600E+03  -7.5625E+02  -4.8600E -09

     Largest nodal residuals
           Node         Node         Node         Node         Node         Node
        X -Force     Y -Force     Z -Force    X -Moment    Y -Moment    Z -Moment
             50           15           50          462          442          537
     3.4481E+03   -3.8146E+02  -3.5547E+03  -1.5416E -10  3.2200E  -08  -4.8600E -09

     Largest unfixed direction residuals
           Node         Node         Node         Node         Node         Node
        X -Force     Y -Force     Z -Force    X -Moment    Y -Moment    Z -Moment
            537          537          442          462          442          537
     2.2053E  -09 -3.1537E -07 -1.4515E -06 -1.5416E -10  3.2200E  -08  -4.8600E -09


1**** TEMPORARY FILE STORAGE (MEGABYTES)
       ---------------------------------
        UNIT NO.  7 :      0.025
        UNIT NO.  8 :      0.026
        UNIT NO.  9 :      0.000
        UNIT NO. 10 :      0.000
        UNIT NO. 11 :      0.056
        UNIT NO. 12 :      0.025
        UNIT NO. 13 :      0.025
        UNIT NO. 14 :      0.000
        UNIT NO. 15 :      0.000
        UNIT NO. 17 :      0.000
        UNIT NO. 51 :      0.069
        UNIT NO. 52 :      1.048
        UNIT NO. 54 :      0.013
        UNIT NO. 55 :      0.044
        UNIT NO. 56 :      0.089
        UNIT NO. 58 :      0.025
        UNIT NO. 59 :      0.000

        TOTAL       :      1.446 Megabytes
```

Processor Log

```
ALGOR (R) Static Stress with Linear Material Models
Version 20.03.01.0013   -WIN 14 -AUG -2007
Copyright (c) 2007, ALGOR, Inc. All rights reserved.

Structural
    562    3    1    0  0 0
**** Linear stress analysis
**** Memory Dynamically Allocated = 523304 KB
```

```
     Options executed are:

     NOMIN
     STRAIN
     SPARSE
     SUPCNF
     SUPELM
     SUPNOD
     REAC
     ENOR


     processing ...

**** OPENING TEMPORARY FILES
     NDYN = 0

                    DATE: AUGUST 7, 2008
                    TIME: 12:37 PM
              INPUT MODEL: C:\0stacey\0Current\_design\379604 (DVSSR Enclosure)\dvssr algor\DVSSR FINAL.ds_data\1\ds

           PROGRAM VERSION: 2003010013
           alg.dll VERSION: 2004010004
      agsdb_ar.dll VERSION: 1800000000
     algconfig.dll VERSION: 2002000064
      algsolve.exe VERSION: 2000000463
      amgsolve.exe VERSION:  330000000

**** BEGIN NODAL DATA INPUT
     562 NODES

     3291 DOFS
**** END   NODAL DATA INPUT
**** BEGIN TYPE  -2 DATA INPUT
     PART 1 CONTAINING 873 ELEMENTS

**** END   TYPE  -2 DATA INPUT
**** BEGIN TYPE  -2 DATA INPUT
     PART 2 CONTAINING 26 ELEMENTS

**** END   TYPE  -2 DATA INPUT
**** BEGIN TYPE  -2 DATA INPUT
     PART 3 CONTAINING 11 ELEMENTS

**** END   TYPE  -2 DATA INPUT
**** Hard disk file size information for processor:

     Available hard disk space on current drive =  51671.082 megabytes


**** BEGIN LOAD INPUT

     Gravity direction vector =  0.0000E+00  0.0000E+00        -1.0000E+00
     One load case.
     Load factor = 1.00E+00 in the 1st basket in load case 1
     Load factor = 1.00E+00 in the 2nd basket in load case 1
**** END   LOAD INPUT

**** Invoking Parallel BCSLIB    -EXT Sparse Solver ...

**** Symbolic Assembling Using the Row     -Hits Matrix Profile ...
**** Assembled in One Block.
**** Real Sparse Matrix Assembly ...
     in the upper off   -diagonal matrix:
     number of entries in the profile  = 58440
     number of symbolic nonzero entries= 43239
     number of real nonzero entries    = 14935
**** Sparse Matrix Assembled in One Block
**** Load case 1
**** End Sparse Solver Solution

**** BEGIN DISPLACEMENT OUTPUT
**** PRINT OF DISPLACEMENT OUTPUT SUPPRESSED
**** END   DISPLACEMENT OUTPUT
**** BEGINNING REACTION COMPUTATIONS
**** LOADCASES REMAINING      1
**** BLOCKS REMAINING      1
**** PARTS REMAINING       3
**** ELEMENT/GLOBAL CONTRIBUTIONS Part = 1
     THE 1st PART CONTAINING 873 ELEMENTS

**** PARTS REMAINING       2
**** ELEMENT/GLOBAL CONTRIBUTIONS Part = 2
     THE 2nd PART CONTAINING 26 ELEMENTS

**** PARTS REMAINING       1
**** ELEMENT/GLOBAL CONTRIBUTIONS Part = 3
```

```
     THE 3rd PART CONTAINING 11 ELEMENTS

**** ENDING REACTION COMPUTATIONS

     ds.t7    =      25.719 kilobytes
     ds.t8    =      26.434 kilobytes
     ds.t9    =       0.000 kilobytes
     ds.t10   =       0.000 kilobytes
     ds.t11   =      57.062 kilobytes
     ds.t12   =      25.711 kilobytes
     ds.t13   =      25.719 kilobytes
     ds.t14   =       0.000 kilobytes
     ds.t15   =       0.000 kilobytes
     ds.t17   =       0.000 kilobytes
     ds.t51   =      71.094 kilobytes
     ds.t52   =    1073.516 kilobytes
     ds.t54   =      12.879 kilobytes
     ds.t55   =      45.484 kilobytes
     ds.t56   =      90.969 kilobytes
     ds.t58   =      25.711 kilobytes
     ds.t59   =       0.000 kilobytes

     total temporary disk storage (megabytes) = 1.4456

     ds.l     =       7.033 kilobytes
     ds.do    =      26.391 kilobytes

**** BEGIN DELETING TEMPORARY FILES
     Processing completed for model:
     [C:\0stacey\0Current\_design\379604 (DVSSR Enclosure)\dvssr algor\DVSSR FINAL.ds_data\1\ds]
**** TEMPORARY FILES DELETED
**** END OF SUCCESSFUL EXECUTION



**** Total actual hard disk space used    =      1.478 megabytes

     Sub -total elapsed time              =      0.027 minutes



ALGOR (R) Stress Calculation Utility
Version 20.03.01.0013   -WIN 14 -AUG -2007
Copyright (c) 2007, ALGOR, Inc. All rights reserved.

**** Memory Dynamically Allocated = 523304 KB

     DATE: AUGUST 7, 2008
     TIME: 12:37 PM
     INPUT......C:\0stacey\0Current\_design\379604 (DVSSR Enclosure)\dvssr algor\DVSSR FINAL.ds_data\1\ds
**** BEGIN TYPE  -2 DATA INPUT
     873 ELEMENTS

**** END   TYPE  -2 DATA INPUT
**** BEGIN TYPE  -2 DATA INPUT
     26 ELEMENTS

**** END   TYPE  -2 DATA INPUT
**** BEGIN TYPE  -2 DATA INPUT
     11 ELEMENTS

**** END   TYPE  -2 DATA INPUT
**** Writing stress and strain output files ...

**** Hard disk file size information for postprocessor:
     ds.son   =     156.707 kilobytes
     ds.nso   =      71.172 kilobytes
     ds.sto   =      71.172 kilobytes

     Total MKNSO disk space used        =     0.29204 megabytes
**** End of successful execution
**** MKNSO elapsed time                 =       0.011 minutes

**** The TOTAL elapsed time             =       0.038 minutes
```

Stress Analysis

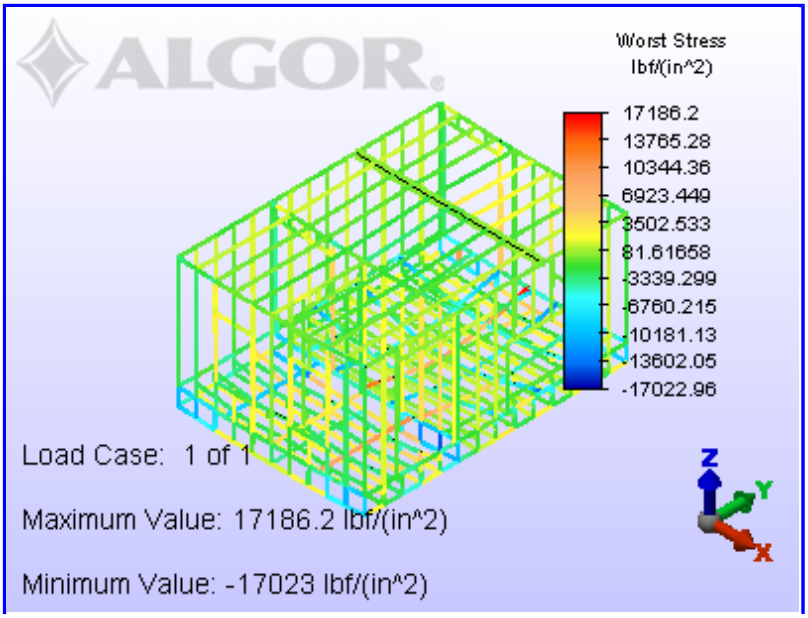
The stress analysis output file (C:\0stacey\0Current_design\379604 (DVSSR Enclosure)\dvssr algor\DVSSR FINAL.ds_data\1\ds.S) was not found.

Weight and Center of Gravity Analysis

The weight and center of gravity analysis output file (C:\0stacey\0Current_design\379604 (DVSSR Enclosure)\dvssr algor\DVSSR FINAL.ds_data\1\ds.WCG) was not found.

Meshing Results

Superview Presentation Images



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The ONLY Steel Door with a Lifetime Warranty!

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Amweld is the only hollow metal door manufacturer with ***laser-welded*** precision doors. When you compare our laser-welded doors with the competition's spot-welded doors, you will see a definite gap in technology, strength, quality, and aesthetics. Laser-welding doesn't cost any more, and it provides a product of uncommon beauty and value. **And, our Lifetime Warranty speaks for itself!**

For more information about Amweld products, services and our warranty, visit: www.amweld.com

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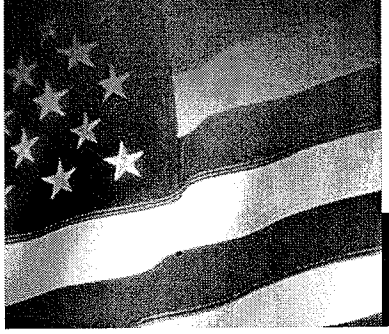
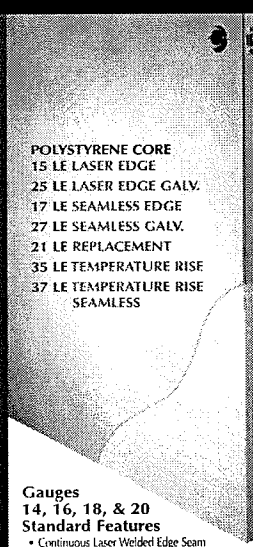


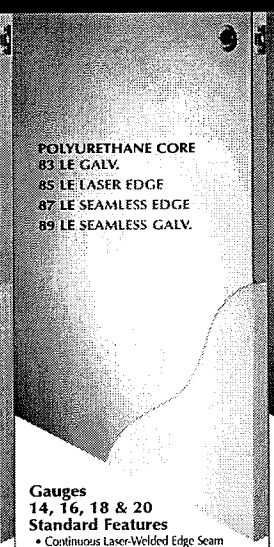


POLYSTYRENE CORE
15 LE LASER EDGE
25 LE LASER EDGE GALV.
17 LE SEAMLESS EDGE
27 LE SEAMLESS GALV.
21 LE REPLACEMENT
35 LE TEMPERATURE RISE
37 LE TEMPERATURE RISE SEAMLESS

Gauges
14, 16, 18, & 20
Standard Features
- Continuous Laser Welded Edge Seam (Laser Edge)
- Fully Bonded, Heat Cured, Nip Rolled, Core
- Positive Pressure/Fire Rated
- Closer Reinforced
- Flush Top Channel
- Inverted Bottom Channel
- Non-Handed Design
- Universal 4 1/2" Hinge Prep.
- Prime painted

Special Options
- Beveled Lock Edge
- Galvanized (A40) or (A60) Steel (25 LE)
- Seamless Edge (17 LE)
- Replacement Door (21 LE)
- Custom Hardware Preps.
- Decorator Colors Available
- Full Line of Lites and Louvers
- 250° Temperature rise core

Ideal for interior and exterior applications.

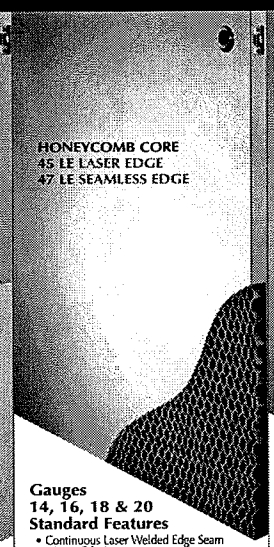


POLYURETHANE CORE
83 LE GALV.
85 LE LASER EDGE
87 LE SEAMLESS EDGE
89 LE SEAMLESS GALV.

Gauges
14, 16, 18 & 20
Standard Features
- Continuous Laser-Welded Edge Seam (Laser Edge)
- Fully Bonded, Heat Cured, Nip Rolled, Core
- Note: Available Fire Rated
- Closer Reinforced
- Flush Top Channel
- Inverted Bottom Channel
- Non-Handed Design
- Universal 4 1/2" Hinge Prep.
- Prime Painted

Special Options
- Beveled Lock Edge
- Galvanized (A40) or (A60) Steel (83 LE)
- Seamless Edge (87 LE)
- Custom Hardware Preps.
- Decorator Colors Available
- Full Line of Lites and Louvers

** Available in 16 and 18 gauge only*
Ideal for extreme temperature conditions.

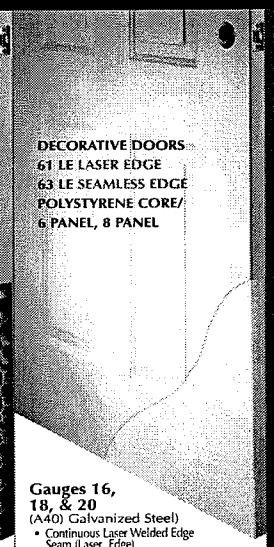


HONEYCOMB CORE
45 LE LASER EDGE
47 LE SEAMLESS EDGE

Gauges
14, 16, 18 & 20
Standard Features
- Continuous Laser Welded Edge Seam (Laser Edge)
- Fully Bonded, Heat Cured, Nip Rolled, Core
- Positive Pressure/Fire Rated
- Closer Reinforced
- Flush Top Channel
- Inverted Bottom Channel
- Non-Handed Design
- Universal 4 1/2" Hinge Prep.
- Prime Painted

Special Options
- Beveled Lock Edge
- Galvanized (A40) or (A60) Steel
- Seamless Edge (47 LE)
- Custom Hardware Preps.
- Decorator Colors Available
- Full Line of Lites and Louvers

Ideal for interior applications where insulation is not required.

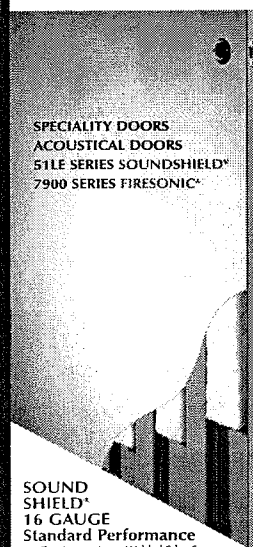


DECORATIVE DOORS
61 LE LASER EDGE
63 LE SEAMLESS EDGE
POLYSTYRENE CORE/
6 PANEL, 8 PANEL

Gauges 16, 18, & 20
(A40) Galvanized Steel)
- Continuous Laser Welded Edge Seam (Laser Edge)
- Fully Bonded, Heat Cured, Nip Rolled, Core
- Positive Pressure/Fire Rated
- Closer Reinforced
- Flush Top Channel
- Inverted Bottom Channel
- Non-Handed Design
- Universal 4 1/2" Hinge Prep.
- Prime Painted

Special Options
- Seamless Edge (63 LE)
- 8 Panel Design (67 LE)
- 2 and 4 Panel Options
- Custom Hardware Preps.
- Decorator Colors Available
- PVC 1/2" Insulated Glass Inserts 1-Lite/9-Lite 2-Lite/15-Lite/Full Lite

Ideal as a decorative entrance door



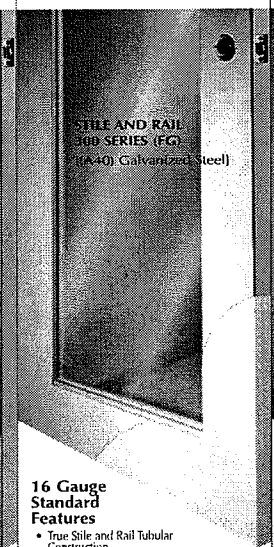
SPECIALITY DOORS
ACOUSTICAL DOORS
51LE SERIES SOUNDSHIELD®
7900 SERIES FIRESONIC®

SOUND SHIELD®
16 GAUGE
Standard Performance
- Continuous Laser-Welded Edge Seam (Laser Edge)
- Seamless Edge (51LE)
- 16 Gauge Meets STC 42 or 45
- Unit includes Frame and Sound Seals

Soundshield Acoustical Doors are made in a similar design to the 15 LE door. Special Soundshield® core provides the desired acoustical performance. Available galvanized for exterior use. Ideal for band rooms, quiet areas, meeting rooms, etc.

FIRESONIC®
14, 16 & 18 Gauge
Standard Performance
- Single Meets STC 45, 47, 49, or 51
- Double Meets STC 41, 47, or 49
- Includes Frame and Sound Seals

FireSonic acoustical doors are made in similar design to the 700 Series door. FireSonic® Core provides desired acoustical performance and durability of a steel-stiffened door. Ideal for quiet rooms where security is also a main consideration.

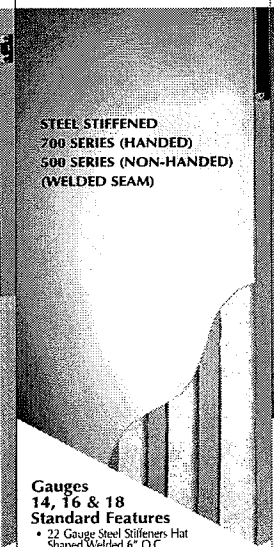


STILE AND RAIL
300 SERIES (FG)
(A40) Galvanized Steel)

16 Gauge
Standard
Features
- True Stile and Rail Tubular Construction
- Non-Handed Construction
- Full Glass Design (FG)
- 5 1/2" Top/Stiles
- 8" Bottom Rail
- Fully Welded/Mitered Corners
- Flush Top and Bottom
- Meets SDI Level 3, Model 3
- Galvanized Standard

Special Options
- Flush glass w/ Mid-Rail (FG2)
- Half Glass Design (G)
- Vision Lite Design (V)
- Polystyrene Core As shown
- Flush Panel Design Available

Ideal for High-Frequency Entrances to replace aluminum storefront doors, as well as High Abuse Applications including Schools and Hospitals.

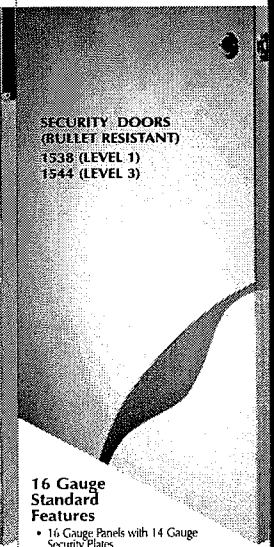


STEEL STIFFENED
700 SERIES (HANDED)
500 SERIES (NON-HANDED)
(WELDED SEAM)

Gauges
14, 16 & 18
Standard Features
- 22 Gauge Steel Stiffeners Hat Shaped Welded 6" O.C.
- Batt Wool Insulation
- Fully Welded (Seamless) Edges
- Square Edges (500)
- Beveled Hinge/Lock Edge (700)
- Inverted Top and Bottom Channel
- Meets NAAMM/HMMA Specifications

Special Options
- Galvanized (A40) Steel Available
- 18 Gauge Steel Stiffeners
- Lites and Louvers Installed
- Variety of Hardware Preparations
- Flush Top and/or Bottom Cap
- Meets NAAMM/HMMA (HMMA-861)
- A Variety of Hurricane-Resistant Products are Available (consult Technical Data Manual)

Per NAAMM/HMMA Specifications, some visible spot welds at steel stiffener locations should be expected. High gloss finishes are not recommended.
Ideal for extreme durability and security purposes where aesthetics are not top priority.



SECURITY DOORS
(BULLET RESISTANT)
1538 (LEVEL 1)
1544 (LEVEL 3)

16 Gauge
Standard
Features
- 16 Gauge Panels with 14 Gauge Security Plates
- Supercore®, Polystyrene Core
- 1538 Series Meets "UL" Level 1 (One Plate)
- 1544 Series Meets "UL" Level 3 (Two Plates)
- 5" Heavy Weight Hinge Preparation
- Unit Includes Security-Approved Hardware

Ideal for high security requirements including banks, electric substations, ATM buildings, etc.

PHONE: 330-527-4385 • FAX: 330-527-5122
TOLL FREE: 800-248-6116 • www.amweld.com

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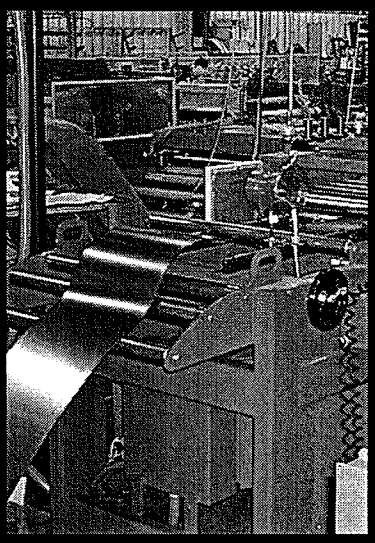
Phone: 330-527-4385 FAX: 330-527-5122 www.amweld.com



Amweld's roll-forming technology produces frames with the tightest tolerances in the industry.

ROLL-FORMING PRODUCES FRAMES WITH: CONSISTANT PROFILES, CONSISTANT SHAPES, CONSISTANT SIZES

To insure that Amweld's laser-welded doors fit accurately, we have completely revamped our frame manufacturing process at our Garrettsville, Ohio plant. Our new Roll forming line produces 80% of our standard frames.

These frames have the tightest tolerances in the industry, and are made to accept hardware that will fit right the first time, every time...making installation easy and accurate.

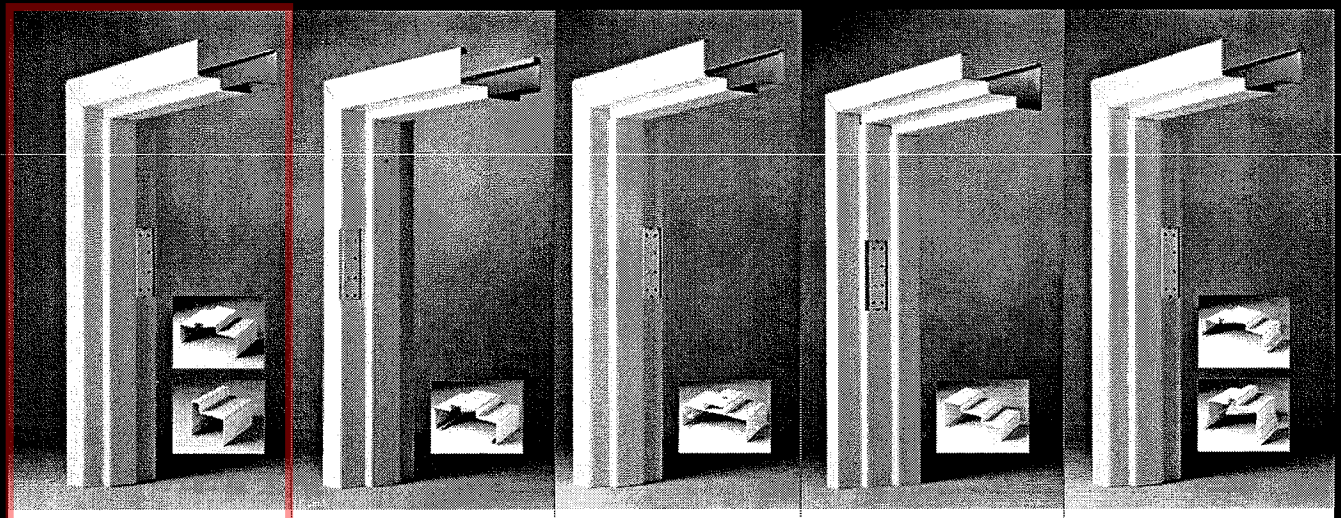
Job requirements are coordinated so headers and strikes come through at the same time insuring all job materials are on time and 100% complete.

Roll forming produces any profile from 4 3/4" to 8 1/2" and up to 12'4" in length for either drywall or masonry configuration.

Hardware preps are programmed into the roll formers database reducing location errors common in manual piercing. Both hardware and silencer piercing are done automatically on line.

Precision roll forming makes frame installation easier and more accurate.

AMWELD
BUILDING PRODUCTS
A division of ARK II Manufacturing, LLC



400 SERIES (INTERLOCK*) 14 OR 16 GAUGE STEEL

Standard Features

- Knocked Down with Precision Fit Interlock* Corners
- 3" - 18 3/4" Jamb Depth
- 2" Faces Standard
- 5/8" High Stops
- 1/2" Returns*
- Unequal Rabbet Design
- Anchors Available for Masonry, Wood and Metal Stud Walls

Special Options

- Galvanized (A40) or (A60) Frames Available for Exterior Use
- Special Faces 1" thru 4" and more
- 4" Header Design Available
- Equal Rabbet Design
- Special Hinge or Lock Locations
- Decorator Colors Available
- Special Profiles Available

Standard steel frames are available knocked-down or welded and ground smooth. Profiles and anchors to fit any wall condition. Embossed 3-hour label standard. Variety of Hardware Preparations available. (Standard is a 4 1/2" hinge (standard or heavyweight) preparation and 4 7/8" strike.)

** 7/16" returns standard on 5 3/4" Frame*

2600 SERIES (SLIP-ON) DRYWALL 16 GAUGE STEEL

Standard Features

- Knocked Down with Precision Fit Sure-Fit* Corners
- Installs Over Finished Walls
- 3" - 12 3/4" Jamb Depth
- 5/8" High Stops
- 1/2" Double Returns
- Unequal Rabbet Design
- 18 Gauge Welded Strap Sill Anchors
- Screw Adjusting Jamb Anchors

Special Options

- Galvanized (A40) or (A60) Frames for Exterior Use
- Special Faces available in 1", 1 1/4", 1 1/2", 1 3/4"
- Pre-drilled and Countersunk Sill Holes Available
- Equal Rabbet Design
- Special Hinge or Lock Locations
- Decorator Colors Available
- 4600 Series - Trimmed Opening

Standard (slip-on) drywall frames are designed for quick and easy installation over finished walls. Embossed 1 1/2-hour label standard. A variety of hardware preparations available. (Standard is 4 1/2" (standard or heavyweight) hinge preparation and 4 7/8" strike.)

800 SERIES ADJUSTABLE 16 GAUGE STEEL

Standard Features

- Interlock* Corner Construction
- Split Frame Design
- Installs over Finished or Existing Walls
- 3 1/4" - 9 7/16" Jamb Depth
- 2" Face and 1/2" Return Standard

Special Options

- Galvanized (A40) or (A60) Frames Available for Exterior Use
- Special Faces Available from 1" - 8"
- Special Returns Available from 3/8" - 1"
- Fire Ratings Available (see Technical Data Manual)
- Decorator Colors Available
- 1200/1800 Series - Replacement Frames

Adjustable steel frames are designed to retrofit walls or encapsulate existing frames. Custom variations are available to wrap almost any wall condition. Ideal for lead-paint encapsulation.

4400 SERIES DOUBLE-EGRESS 14 OR 16 GAUGE STEEL

Standard Features

- Knocked Down with Mitered Corners
- 4" - 12 3/4" Jamb Depth
- 5/8" High Stops
- 1/2" Returns
- Anchors Available for Masonry, Wood and Metal Stud Walls

Special Options

- Galvanized (A40) or (A60) Frames Available
- Variety of Custom Hardware Preparations Available
- Decorator Colors Available

Note: Standard double egress frames are designed for cross corridor application to assist in traffic flow pattern. (4 1/2" (standard or heavyweight) hinge preparation is standard.)

SPECIALTY FRAMES 14 OR 16 GAUGE STEEL

- 3000 Series Thermal Break Frames Minimize Condensation Problems.*
- Available in a Variety of Specialized Face Trim, Backbends, and Return Profiles.
- Amweld offers Cove, Stepped Ogee and Splay Faces for a Distinctive Custom Look.
- Pocket Slide Frame.
- Non-Handed Frame Systems for the Metal Building Industry.
- 1400 or 1600 Bullet Resistant for UL752 Level 1 or 3 Protection.
- Hospital Stop
- Kerterf

Amweld's frame manufacturing capabilities are second-to-none. See Amweld's Architectural Data Manual for additional information.

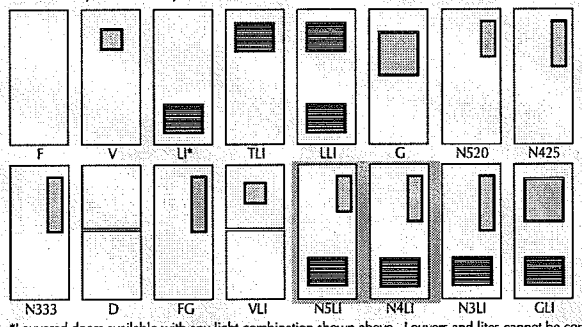
** Available in 14 gauge (A40) galvanized only.*

DESIGN

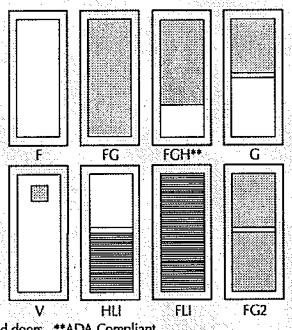
AMWELD DOOR DESIGNS

08 11 00/AMW
BuyLine 2618

STANDARD DOOR DESIGN -
SERIES 15LE/17LE, 25LE/27LE, 35LE/37LE, 45LE/47LE, 85LE/87LE, 700



STILE & RAIL DOOR DESIGN -
SERIES 300



*Louvered doors available with any light combination shown above. Louvers and lites cannot be combined in labeled doors. **ADA Compliant

GENERAL AVAILABILITY OF FIRE RATINGS

FIRE RATED FRAMES

Description	Series Available					
	400	600	800	1800	2600	4400
3 Sided Single	*	*	*	*	*	
3 Sided Double	*	*	*	*	*	
4 Sided Single	*	*				
Slip-on Drywall		*			*	
Double Egress						*
Contra Swing	*	*			*	
Multi-Swing	*					
Transom w/o Bar	*					
Transom w/ Bar	*					
Adjustable			*	*		
4 hour in Drywall	*					
10'-0" Opening Ht.	*					*
Fire Window	*			*		
Side/Transom Lite	*					
K-D	*	*	*	*	*	*
Welded	*		*	*		*
Hospital Stops	*	*			*	*
Positive Pressure	*	*	*		*	*
Snap In Anchors	*					
4 Sided Access	*	*			*	

FIRE RATED DOORS

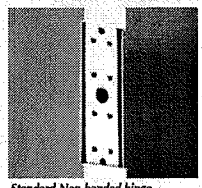
Description	Series								
	15LE	25LE	35LE	45LE	500	700	61LE	51LE	300
3 Hour Rating	*	*	*	*	*	*	*		
3 Hr. Rating w/ Lite	*	*	*	*	*				
1 1/2 Hour Rating	*	*	*	*	*	*	*		
3/4 Hour Rating	*	*	*	*	*	*	*	*	
20 Min. (N.H.S.)	*	*	*	*	*	*	*	*	*
Positive Pressure	*	*	*	*		*			*
Fusible Link Louvers	*	*		*	*	*			
250° Temp. Rise			*						
450° Temp. Rise			*		*	*		*	
Height up to 8'-0" *	*	*	*	*	*	*		*	*
Height up to 10'-0" *	*	*	*			*			
Embossed Panels							*		
Protection Plates to 48" A.F.F.	*	*	*	*	*	*			
Double Egress			*	*		*			

*Consult Amweld Tech Data for Information

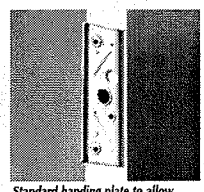
The above charts are intended to be a brief synopsis, not a complete description or a "mix and match." Amweld's Tech Data is to be consulted for more specific information.

TECH DATA

DOOR/SERIES/GAUGES



Standard Non-handed hinge preparation. (minimum10 gauge). Prepare for standard and heavy weight 4.5" Hinges



Standard handing plate to allow jobsite handling for additional versatility.

STANDARD, FIRE, CUSTOM, STILE & RAIL BULLET RESISTANT

SERIES	THICKNESS	GAUGE	SINGLE WIDTH	DOUBLE WIDTH	HEIGHT
15, 17, 25, 27 LE	1 3/4"	14, 16, 18, 20	2'0" thru 4'0"**	4'0" thru 8'0"**	6'8", 7'0", 7'2", 7'10", 8'0", 10'0"**
45, 47, 83, 85, 87 LE	1 3/4"	14, 16, 18, 20,	2'0" thru 4'0"	4'0" thru 8'0"	6'8", 7'0", 7'2", 8'0"
61-63 LE	1 3/4"	16, 18, 20	2'8" thru 3'6"	5'4" thru 7'0"	6'8", 7'0"
51-53 LE	1 3/4"	16	2'0" thru 4'0"	not available	6'8" - 7'0", 7'2", 8'0"
1538 LE (One 14 ga. plate)	1 3/4"	16	3'0" thru 4'0"	not available	6'8" - 7'0"
1544 LE (Two 14 ga. plate)	1 3/4"	16	3'0" thru 4'0"	not available	6'8" - 7'0"
21 LE	1 3/4"	16, 18	2'0" thru 4'0"	4'0" thru 8'0"	6'8" - 7'0"
300	1 3/4"	16	4'0" thru 8'0"	5'0"-6'0"- 7'0"- 8'0"	6'8", 7'0", 7'2", 7'10", 8'0"
300 Full Glass	1 3/4"	16	4'0" thru 8'0"	5'0" thru 8'0"	6'8", 7'0", 7'2", 7'10", 8'0"
500	1 3/4"	16, 18	2'0" thru 4'0"	4'0" thru 8'0"	6'8" - 7'0", 7'2" - 7'10" - 8'0"
700	1 3/4"	14, 16, 18	2'0" thru 4'0"*	4'0" thru 8'0"	6'8" - 7'0", 7'2" - 7'10" - 8'0" - 10'

*Door leaves over 4'0" available.

**Limited availability in 20 gauge.

15LE SERIES THERMAL CONDUCTIVITY

Guage	U Value Btu/(ft²•h•°F) Winter[1]	U Value W/(m²•K) Still Air[2]	R Value ft²•h•°F/Btu Winter[1]	R Value (m²•K/W) Still Air[2]
20	0.28 (1.59)	0.24 (1.36)	3.57 (0.63)	4.16 (0.73)
18	0.28 (1.59)	0.25 (1.42)	3.57 (0.63)	4.00 (0.70)

1 Apparent U Factor corrected to a winter design with 15 mph (24 kph) winds.
2 Apparent U Factor corrected to still air on both sides.

MADE IN U.S.A.

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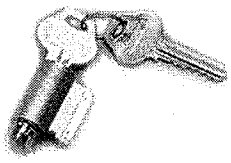


PREFINISHED DOORS & FRAMES

You can choose Amweld's low VOC primer or 12 decorator colors* to reduce the costs of jobsite painting and cleaning. Special frame carton available.

Amweld pre-painted material is intended as a substitute for field finish, and should be of comparable quality to a field applied finish. Carefully compare factory prefinish and field applied finish costs.

All Amweld Doors and Frames are available in prefinish with the exceptions being the Series 300, 51LE, 53LE, 1538, 1544, 500, 700 Doors.

* Prefinish colors shown are approximate. Color chips available for architect approval upon request.

Dark Bronze

Colonial Red

Skylight Blue

Seal Brown

Atrium Green

Bronze Gold

Antique Bronze

Surrey Beige

Mullion Gray

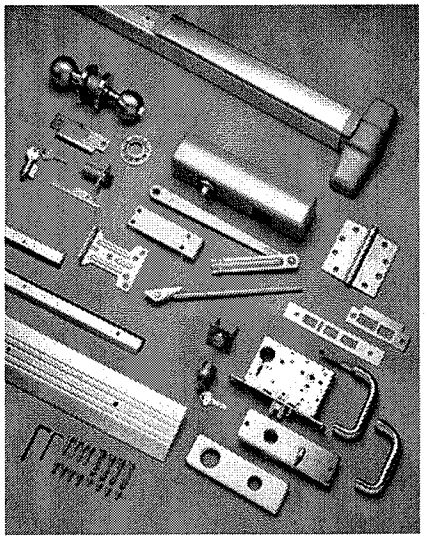
Ivory

Sandstone

White

HARDWARE

Amweld carries a complete line of brand name hardware for interior and exterior openings, as well as fire barrier and security doors.



Corbin Russwin LCN
VON DUPRIN
RIXSON
HAGER COMPANIES
DOR-O-MATIC
ROCKWOOD
MONARCH.
Reese
Yale
DORMA
GLYNN-JOHNSON
SCHLAGE
PEMKO
FALCON
STANLEY

The Independence Hardware by Amweld brand provides strong value, great customer benefits, and an independent choice for architects, building owners, contractors, and distributors. For more information on Independence Hardware by Amweld, visit their website at:
www.independence-hardware.com
Phone: 877-437-1237 Fax: 330-527-5449

INDEPENDENCE Hardware by AMWELD

Please call your local Amweld distributor for specifics about the brand name products shown above.

These items can be shipped within 48 hours:

- Standard and heavy duty mortise locks, full escutcheon, sectional trim, and lever handle sets.
- Mortise deadlocks.
- Bored locks (light, standard and heavy duty).
- Tubular deadlocks.
- Rim Panic exit devices (labeled and standard).
- Vertical rod surface applied (labeled and standard exit devices).
- Full mortise template hinges.
- Half mortise hinges.
- Spring template hinges.
- Surface door closers.
- Overhead door holders.
- Open back strikes.
- Listed and non-listed interviewers.
- Kickplates.
- Automatic and self-latching flush bolts.
- Surface bolts.
- Padlocks.
- Thresholds.
- Floor sweeps.
- Door stops.
- Push and Pull plates.

These items are special order:

- Pre-assembled (unit) locks.
- Double acting spring hinges, template and clamp type.
- Anchor or Pivot reinforced hinges.
- Double acting hinges.
- Single acting floor checks.
- Double acting floor checks.
- Concealed closers.
- Head mounted closers.
- Electric strikes.
- Electric hinges.
- Roller latches.
- Push and Pull bars.
- Flush Pulls.
- Rescue hardware.
- Emergency exit locks.
- Electronic security hardware
- Vertical rod/concealed.

NAAMM DHI SDI

ADVANCED INFORMATION TECHNOLOGY SERVICES

AmTech
Amweld leads the way with it's AmTech On-Line ordering and order tracking system.

FabMaker
With Amweld's FabMaker software, you can easily draw fab elevations and estimate with accuracy.

For more information, contact the IT Department at Amweld.

Your options for specifying and ordering Amweld products are as follows:

- Log on to www.amweld.com and go to spec wizard
- Send an e-mail to: marketing@amweld.com and request a hard copy of the Amweld Technical Data Manual
- www.sweets.com
- www.FirstSourceONL.com
- www.arcat.com

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Quality Hollow Metal Doors, Frames, and Architectural Hardware.

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FAX: 330-527-5122
www.amweld.com

DISTRIBUTION / SERVICE CENTERS

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Romeoville, IL 60446
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FAX: 815-293-4402

Los Angeles Distribution Center
138 University Parkway
Pomona, CA 91768
909-594-8355
FAX: 909-594-8183

Southeast Distribution Center
995 Charles Street
Longwood, FL 32750
407-478-0728
FAX: 407-478-0732

PROUDLY AMERICAN, FIERCELY INDEPENDENT, FIERCELY LOYAL.

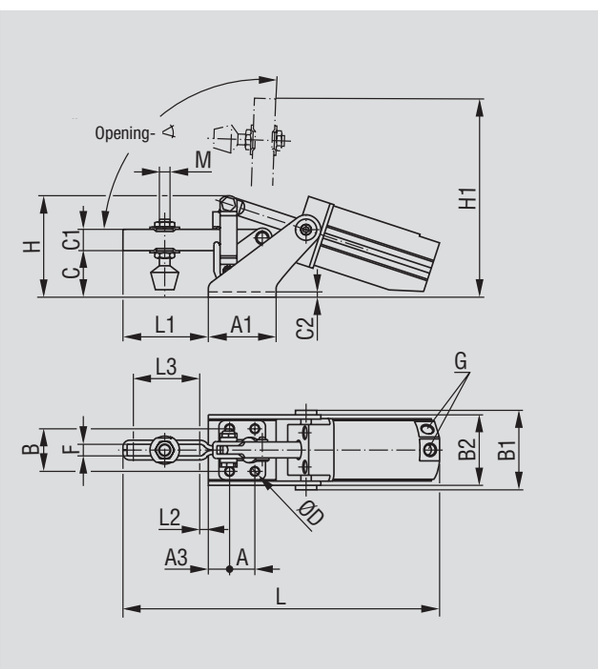
Models 802-U, 807-U, 810-U, 812-U, 847-U

Cylinder horizontal

Model n	Maximum Holding Capacity Inner	Maximum Holding Capacity Outer	Exerting Force @ 80 PSI Inner	Exerting Force @ 80 PSI Outer	Max. Operating Pressure [PSI]	Port Size	Weight	Standard equipment
802-U	200	110	200	160	40	1/8 NPT	1.60	202208-M
807-U	375	275	350	150	55	1/8 NPT	2.30	507107 (flanged washers)
810-U	600	290	600	400	70	1/8 NPT	4.07	235106 (flanged washers)
812-U	100	55	135	96	80	10-32 NF	0.46	305208-M
847-U	1,000	480	750	450	60	1/8 NPT	8.93	247109 (flanged washers)

ALSO AVAILABLE	
With Viton Seals	Model 802-U-HT ▲ Model 807-U-HT ▲ Model 810-U-HT ▲ Model 812-U-HT ▲ Model 847-U-HT ▲
Switch Options	Pages 13.1–13.4
See accessories beginning on pages 9.1 and 13.1.	
▲ Available upon request, as are a number of other modifications	

Magnetic Ring Now A Standard Feature



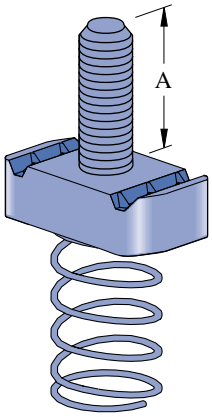
Model **807-U**

Model **812-U**

Model **847-U**

Model no.	A	A1	A3	B	B1	B2	C	C1	C2	ØD	F	H	H1	L	L1	L2	L3	M	Opening angle +/-5°
802-U	0.50	1.50	0.25	1.06	2.22	1.93	1.04	0.38	0.24	0.22	0.28	2.58	3.82	7.69	1.73	0.50	0.99	M6	95°
807-U	0.75	2.00	0.63	1.24	2.26	2.06	1.38	0.63	0.25	0.28	0.34	3.02	5.98	9.05	2.51	0.26	2.23	M8	92°
810-U	1.25	4.22	0.38	1.79	3.07	2.86	1.79	0.79	0.24	0.33	0.40	3.79	7.28	12.32	3.57	0.86	2.35	M10	95°
812-U	0.63	1.00	0.18	0.94	1.54	1.50	0.68	0.31	0.13	0.18	0.22	1.53	–	5.59	1.02	0.11	0.75	M5	90°
847-U	1.25	6.22	0.38	1.78	3.62	3.56	2.25	0.88	0.44	0.34	0.53	4.40	–	15.95	4.87	1.36	3.14	M12	95°

Channel Stud Nut With Spring



All Stud Nut grooves are serrated.

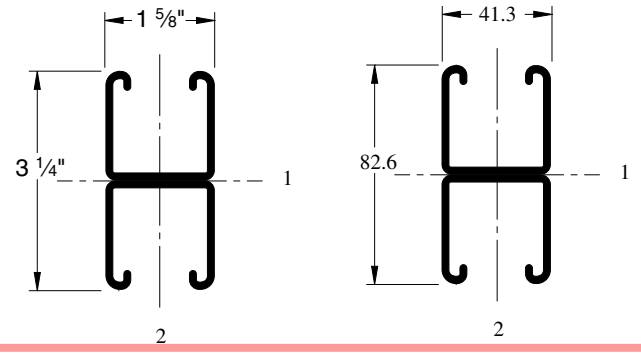
Special stud lengths and thread lengths can be supplied upon request.

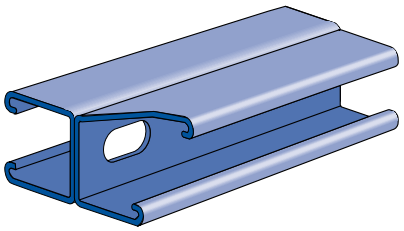
■ Acceptable for use

Channel nut Part number	Nut Size Thread	Stud In *(mm)*	"A" Wt/100 pcs Lbs *(kg)*	For Use With Channel P1000, P1100, P2000, P3000
P2378-1	¼" -20	1 *25.4*	8 *3.6*	■
P2378-2		1¼ *31.8*	9 *4.1*	■
P2378-3		1½ *38.1*	9 *4.1*	■
P2379-1	5/16" -18	1 *25.4*	12 *5.4*	■
P2379-2		1¼ *31.8*	12 *5.4*	■
P2379-3		1½ *38.1*	13 *5.9*	■
P2380-1	⅜" -16	1 *25.4*	13 *5.9*	■
P2380-2		1¼ *31.8*	13 *5.9*	■
P2380-3		1½ *38.1*	13 *5.9*	■
P2380-4		1¾ *44.5*	15 *6.8*	■
P2380-5		2 *50.8*	16 *7.3*	■
P2380-6		2¼ *57.2*	16 *7.3*	■
P2381-2	½" -13	1 *25.4*	14 *6.4*	■
P2381-3		1¼ *31.8*	15 *6.8*	■
P2381-4		1½ *38.1*	17 *7.7*	■
P2381-5		1¾ *44.5*	18 *8.2*	■
P2381-6		2 *50.8*	19 *8.6*	■
P2381-7		2¼ *57.2*	20 *9.1*	■
P2382-2	⅝" -11	1¼ *31.8*	18 *8.2*	■
P2382-3		1½ *38.1*	20 *9.1*	■

P1001 T

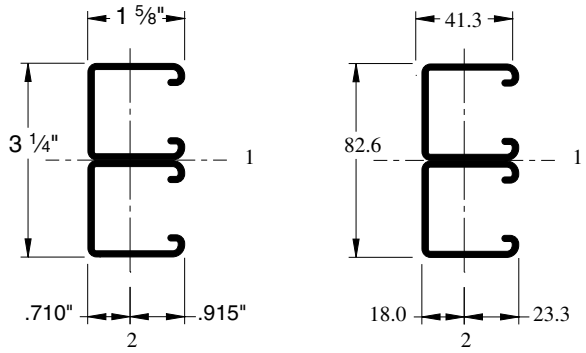
Wt/100 Ft: 378 Lbs (562 kg/100 m)
Allowable Moment 14,360 In-Lbs (1,620 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

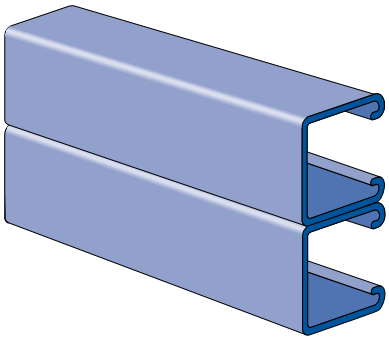




P1001 A

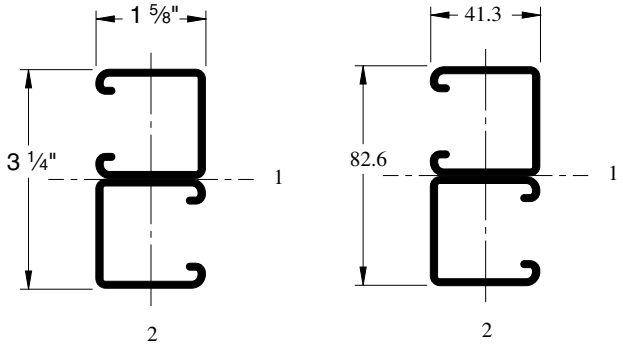
Wt/100 Ft: 378 Lbs (562 kg/100 m)
Allowable Moment 18,640 In-Lbs (2,110 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

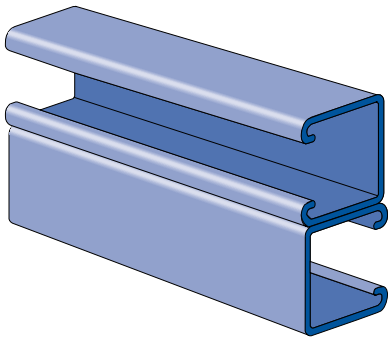




P1001 B

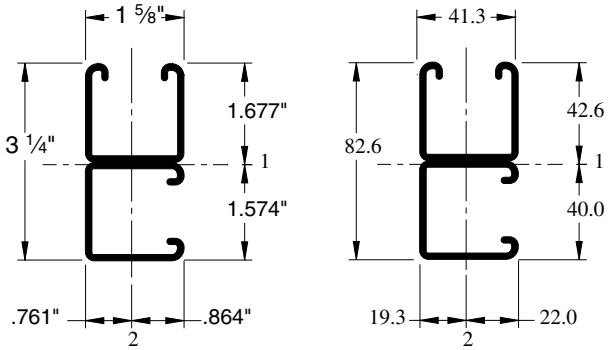
Wt/100 Ft: 378 Lbs (562 kg/100 m)
Allowable Moment 18,640 In-Lbs (2,110 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

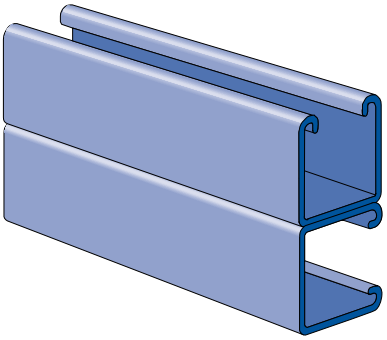




P1001 C

Wt/100 Ft: 378 Lbs (562 kg/100 m)
Allowable Moment 15,950 In-Lbs (1,800 N•m)
12 Gauge Nominal Thickness .105" (2.7mm)

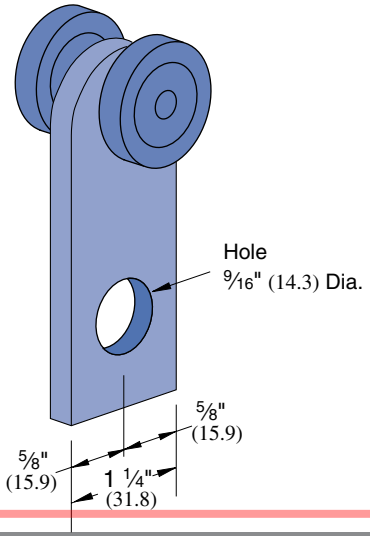


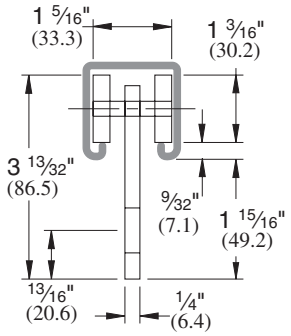


Channel Finishes: PL, GR, HG, PG; Standard Lengths: 10' & 20'

P2949

Wt/100 pcs: 46 Lbs (20.9 kg)



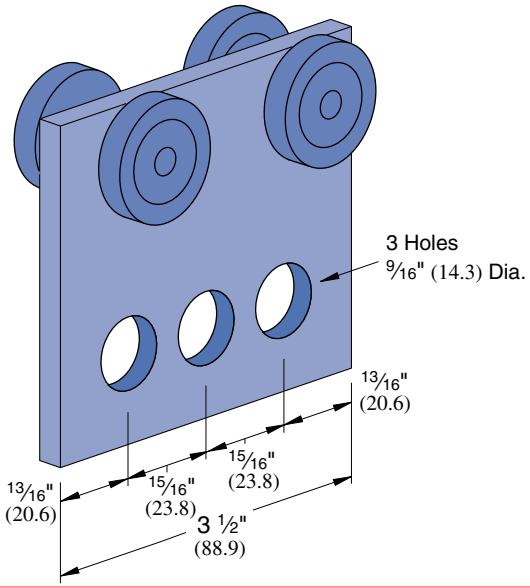


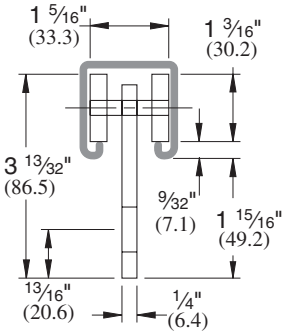
FPM	RPM	Design Load In P1000 Lbs *(kg)*
180	600	150 *68.0*
90	300	225 *102.1*
30	100	437 *198.2*

Wheel bearings are stainless steel.
Do not lubricate.

P2950

Wt/100 pcs: 110 Lbs (49.9 kg)



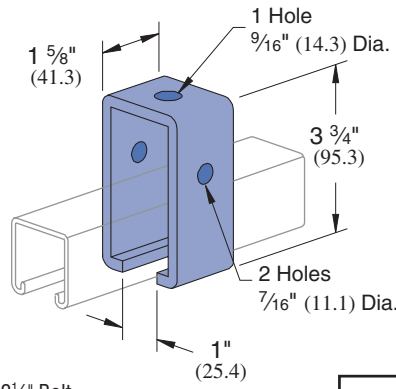


FPM	RPM	Design Load In P1000 Lbs *(kg)*
180	600	300 *136.1*
90	300	450 *204.1*
30	100	600 *272.2*

Wheel bearings are stainless steel.
Do not lubricate.

P1834 Channel Trolley Support

Wt/100 pcs: 102 Lbs (46.3 kg)

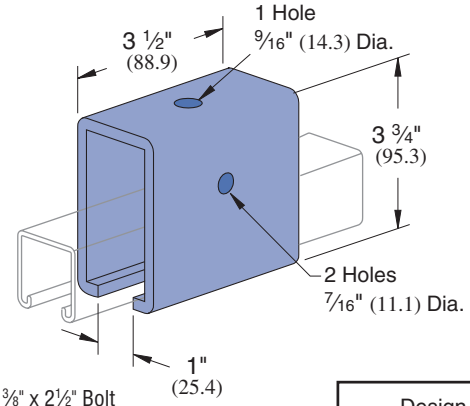


Requires 3/8" x 2½" Bolt and 3/8" Nut (not included)

Design Load 1200 Lbs (544.3 kg)

P1834A Channel Trolley Support

Wt/100 pcs: 220 Lbs (99.8 kg)



Requires 3/8" x 2½" Bolt and 3/8" Nut (not included)

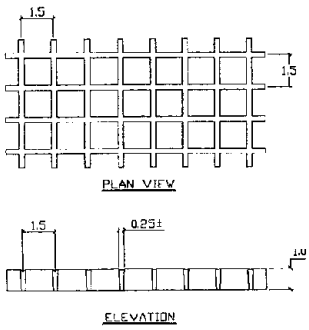
Design Load 2500 Lbs (1,134.0 kg)

Molded Grating Selection and Details

Fibergrate® and Chemgrate® Molded Grating

Brand	Depth	Mesh	Standard Panel Sizes	Wt. Per Sq. Ft.	Open Area
AirMesh®	1/2"	1-1/2" x 1-1/2" square	4' x 8' *(non-load carrying product)*	0.8 lb	87%
Multigrid®	1/2"	2" x 2" square	4' x 12', 4' x 15' *(must be fully supported)*	1.0 lb	82%
Chemgrate	5/8"	1" x 4" rectangular	12' x 4'	2.1 lb	58%
Fibergrate	3/4"	1" x 4" rectangular	10' x 3', 8' x 4'	2.5 lb	69%
Fibergrate	3/4"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12'	2.0 lb	70%
Fibergrate	1"	1" x 4" rectangular	10' x 3', 8' x 4'	2.5 lb	69%
Fibergrate	1"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12'	2.5 lb	70%
Chemgrate	1"	1" x 4" rectangular standard	12' x 4', 12' x 3'-1/4"	2.7 lb	65%
Chemgrate	1"	1" x 4" rectangular heavy duty	12' x 4'	3.4 lb	52%
Chemgrate	1"	2" x 2" square	4' x 12'	1.7 lb	76%
Fibergrate	1-1/4"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12', 5' x 10'	3.2 lb	70%
Fibergrate	1-1/2"	1-1/2" x 1-1/2" square	3' x 10', 4' x 8', 4' x 12', 5' x 10'	3.7 lb	70%
High Load	1-1/2"	1" x 2" rectangular	6' x 4'	6.2 lb	48%
Micro-Mesh®	1-1/2"	Top 3/4" sq Btm 1-1/2" sq	2' x 2'	5.0 lb	44%
Chemgrate	1-1/2"	1-1/2" x 1-1/2" square	4' x 12'	3.5 lb	69%
Chemgrate	1-1/2"	1-1/2" x 6" rectangular	12' x 4'	3.4 lb	67%
Fibergrate	2"	2" x 2" square	4' x 12'	4.0 lb	72%
High Load	2"	1" x 2" rectangular	6' x 4'	8.4 lb	48%
Chemgrate	2"	2" x 2" square	4' x 12'	4.1 lb	72%

Fibergrate® Grating Details

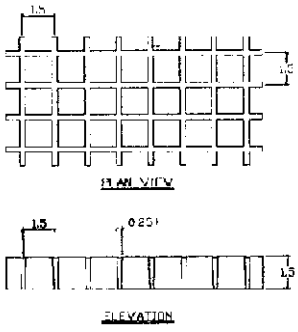


1" x 1-1/2" Square Mesh

# of Bars/Ft of Width
8

Load Bar Width	Open Area
1/4"	70%
Load Bar Centers	**Approx. Weight**
1-1/2"	2.5 psf

ENGINEERING PROPERTIES PER FT OF WIDTH
A = 1.71 IN² I = 0.14 IN⁴ S = 0.29 IN³ AVERAGE EI = 300,000 lb - in²

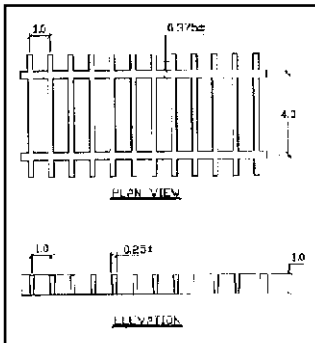


1-1/2" x 1-1/2" Square Mesh

#of Bars/Ft of Width
8

Load Bar Width	Open Area
1/4"	70%
Load Bar Centers	**Approx. Weight**
1-1/2"	3.75 psf

ENGINEERING PROPERTIES PER FT OF WIDTH
A = 2.85 IN² I = 0.51 IN⁴ S = 0.65 IN³ AVERAGE EI = 900,000 lb - in²

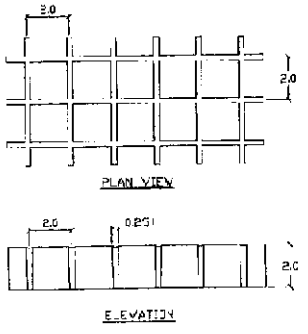


1" x 1" x 4" Rectangular Mesh

Load Bars Run Width Direction
# of Bars/Ft of Width
12

Load Bar Width	Open Area
1/4"	69%
Load Bar Centers	**Approx. Weight**
1"	2.5 psf

ENGINEERING PROPERTIES PER FT OF WIDTH
A = 2.57 IN² I = 0.22 IN⁴ S = 0.43 IN³ AVERAGE EI = 513,000 lb - in²



2" x 2" Square Mesh

#of Bars/Ft of Width
6

Load Bar Width	Open Area
1/4"	72%
Load Bar Centers	**Approx. Weight**
2"	4.0 psf

ENGINEERING PROPERTIES PER FT OF WIDTH
A = 2.88 IN² I = 0.96 IN⁴ S = 0.94 IN³ AVERAGE EI = 1,950,000 lb - in²

Molded Grating Resins

Resin Systems

Corrosion in the workplace negatively impacts your bottom line. Each year, industrial plant executives eliminate expensive corrosion-related maintenance problems by switching to Fibergrate molded grating. Various applications present different requirements so Fibergrate has more than ten standard resin systems (the most in the industry) including the new FGI-AM (food grade isophthalic polyester antimicrobial) available in both Fibergrate and Chemgrate Resins.

Fibergrate® Resins

• **Vi-Corr®** - A superior vinyl ester resin developed for reliable performance in the toughest environments. It offers outstanding resistance to a wide range of highly corrosive situations, ranging from caustic to acidic. In fact, no other resin system can match Vi-Corr's performance in highly acidic environments. **Color:** orange or dark gray. **Flame spread:** ASTM E84 rating of 25 or less. **Certifications:** UL Classification available; DNV Type Approval No. F-16856; USCG Accepted; ABS Type Approval No. 01-HS34733-X).

• **IFR** - This isophthalic polyester fire-retardant resin formulation is designed for industrial and chemical processing applications where corrosion resistance is important. **Color:** green or dark gray. **Flame Spread:** ASTM E84 rating of 25 or less. **Certifications:** UL Classification available.

New! New! New!

• **FGI-AM*** - This improved food-grade isophthalic polyester resin system offers antimicrobial properties to inhibit the growth of mold on the surface of the composite to protect the product itself along with the necessary corrosion resistance to meet the requirements of the food and beverage industry. **Color:** light gray. **Flame Spread:** ASTM E84 rating of 25 or less. **Certifications:** USDA accepted.

• **CORVEX®** - An economy polyester grating, Corvex outperforms a number of competitive fiberglass and metal products and meets the requirements for corrosion resistance found in light industrial and water/wastewater applications. **Color**: yellow, dark gray or dark green. **Flame Spread**: ASTM E84 rating of 25 or less. **Certifications:** DNV Type Approval No. F-16856.

• **Super Vi-Corr®** - This family of resin systems consists of more than 30 custom formulas engineered to provide corrosion control solutions in applications that are too severe for conventional FRP and other building materials. Each Super Vi-Corr resin was engineered for the best possible performance in specific chemical and/or elevated temperature environments. These systems exist for aggressive chemical service in reagents like solvents, acidic oxidizers, chlorine dioxide, sodium hypochlorite and liquid desiccants. Certain formulas are also suited for elevated temperature applications up to 400° F. Super Vi-Corr gratings are typically used for packing hold-downs and support in environmental and process scrubber applications. **Color**: natural - tan to beige. **Flame Spread**: non fire retardant, unless specified.

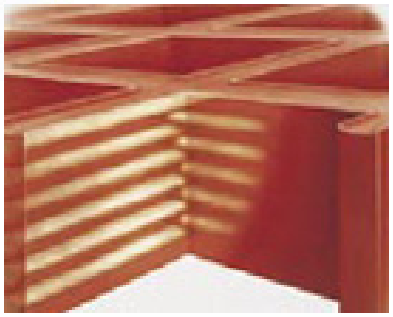
• **XFR** - This extra fire-retardant vinyl ester resin is recommended for use where the fire potential is high. **Color:** dark gray. **Flame Spread:** ASTM E84 rating of 10 or less, a level exceeded by no other resin system. **Certifications:** DNV Type Approval No. F-16856.

• **ELS** - This Extremely Low Smoke resin is an acrylic-modified polyester system that is ideal for tunnel, offshore, mass transit and other confined space applications. ELS exhibits low ignitability, low smoke generation and extremely low smoke toxicity. **Color:** light gray. **Flame Spread:** ASTM E84 rating of 25, a smoke density index of 100 and Fuel Contribution of 0. **Certifications:** DNV Type Approval No. F-16856.

Applied Grit Top

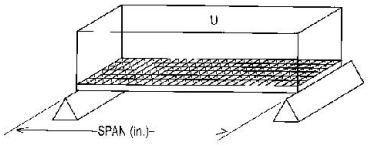
Slip-resistant Surfaces

Slips and falls are the second leading cause of industrial accidents. According to the National Safety Council, each injury related lost work day can cost $50,000 to $100,000. That is why Fibergrate developed three slip-resistant surfaces for flooring and stair solutions. These surfaces include meniscus and applied grit tops in the Fibergrate resins and integral grit in the Chemgrate resins.



Meniscus Top

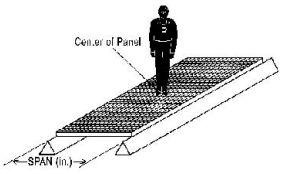
Load Tables - Fibergrate® Molded Gratings



MOLDED GRATING UNIFORM LOAD TABLES - DEFLECTIONS IN INCHES												MAX RECOM. LOAD (psf)			ULTIMATE CAPACITY (psf)
CLEAR SPAN	STYLE		LOAD (psf)									RESIN SYSTEM			
	DEPTH	MESH										CORVEX®	IFR	Vi-Corr® Super Vi-Corr®	
(in)	(in)	(in x in)	50	65	100	150	200	300	500	1000	2000	ELS	FGI	XFR	
12	1	1x4	<.01	<.01	<.01	<.01	<.01	0.01	0.02	0.05	0.09	2360	2360	4620	10150
	1	1-1/2x1-1/2		<.01	<.01	<.01	0.01	0.02	0.04	0.08	0.16	1580	1580	3080	6770
	1-1/2	1-1/2x1-1/2		<.01	<.01	<.01	<.01	0.01	0.02	0.04	0.07	2060	2830	7700	10420
	2	2x2	<.01	<.01	<.01	<.01	<.01		0.01	0.02	0.04	2500	6260	6260	9620
	3/4	1x4	<.01	<.01	0.01	0.01	0.02	0.02	0.04	0.08	0.15	1350	2030	2030	8130
	3/4	1-1/2x1-1/2	<.01	<.01	0.01	0.02	0.02	0.04	0.06	0.12	--	1000	1500	1500	6000
	1-1/4	1-1/2x1-1/2	<.01	<.01	<.01	<.01	<.01	0.01	0.02	0.04	--	1110	1660	1660	6660
18	1	1x4	0.01	0.01	0.02	0.03	0.04	0.07	0.11	0.22	0.44	1050	1050	2050	4750
	1	1-1/2x1-1/2	0.02	0.02	0.04	0.06	0.08	0.11	0.20	0.38	--	700	700	1370	3170
	1-1/2	1-1/2x1-1/2	<.01	<.01	0.01	0.02	0.03	0.04	0.07	0.14	0.28	910	1250	3420	6940
	2	2x2	<.01	<.01	0.01	0.01	0.02	0.03	0.04	0.09	0.17	1110	2780	2780	6410
	3/4	1x4	0.02	0.02	0.04	0.06	0.08	0.11	0.19	--	--	600	900	900	3610
	3/4	1-1/2x1-1/2	0.03	0.04	0.06	0.09	0.12	0.18	0.30	--	--	440	660	660	2660
	1-1/4	1-1/2x1-1/2	0.01	0.01	0.02	0.03	0.04	0.06	0.09	0.19	--	740	1110	1110	4440
24	1	1x4	0.04	0.05	0.07	0.11	0.15	0.22	0.37	--	--	590	590	1150	2670
	1	1-1/2x1-1/2	0.06	0.08	0.12	0.19	0.25	0.37	--	--	--	390	390	770	1780
	1-1/2	1-1/2x1-1/2	0.02	0.03	0.04	0.06	0.06	0.12	0.21	0.42	--	510	700	1920	4000
	2	2x2	0.01	0.01	0.02	0.03	0.04	0.06	0.10	0.20	--	620	1560	1560	4810
	3/4	1x4	0.06	0.08	0.12	0.18	0.24	0.36	--	--	--	330	500	500	2030
	3/4	1-1/2x1-1/2	0.09	0.12	0.18	0.28	0.37	--	--	--	--	250	370	370	1500
	1-1/4	1-1/2x1-1/2	0.03	0.04	0.06	0.09	0.11	0.17	0.29	--	--	440	660	660	2660
30	1	1x4	0.08	0.11	0.17	0.26	0.34	--	--	--	--	370	370	740	1710
	1	1-1/2x1-1/2	0.14	0.18	0.27	0.41	--	--	--	--	--	250	250	490	1140
	1-1/2	1-1/2x1-1/2	0.05	0.06	0.09	0.14	0.18	0.27	0.46	--	--	330	450	1230	2560
	2	2x2	0.02	0.03	0.05	0.07	0.09	0.14	0.23	0.45	--	400	1000	1000	3340
	3/4	1x4	0.13	0.17	0.26	0.40	--	--	--	--	--	210	320	320	1300
	3/4	1-1/2x1-1/2	0.17	0.23	0.35	--	--	--	--	--	--	160	240	240	960
	1-1/4	1-1/2x1-1/2	0.08	0.10	0.15	0.23	0.30	0.46	--	--	--	280	420	420	1700
36	1	1x4	0.16	0.21	0.32	0.49	--	--	--	--	--	260	260	510	1180
	1	1-1/2x1-1/2	0.31	0.40	--	--	--	--	--	--	--	170	170	340	790
	1-1/2	1-1/2x1-1/2	0.10	0.13	0.20	0.30	0.40	--	--	--	--	230	310	850	1770
	2	2x2	0.04	0.06	0.09	0.13	0.18	0.26	0.44	--	--	270	690	690	2320
	3/4	1x4	0.25	0.33	0.50	--	--	--	--	--	--	150	220	220	900
	3/4	1-1/2x1-1/2	0.39	--	--	--	--	--	--	--	--	110	160	160	660
	1-1/4	1-1/2x1-1/2	0.14	0.18	0.28	0.42	--	--	--	--	--	190	290	290	1180
42	1	1x4	0.33	0.43	--	--	--	--	--	--	--	190	190	370	870
	1	1-1/2x1-1/2	0.49	--	--	--	--	--	--	--	--	120	120	250	580
	1-1/2	1-1/2x1-1/2	0.17	0.22	0.34	--	--	--	--	--	--	160	230	620	1300
	2	2x2	0.08	0.10	0.16	0.24	0.32	0.47	--	--	--	200	510	510	1700
	1-1/4	1-1/2x1-1/2	0.26	0.34	--	--	--	--	--	--	--	140	210	210	870
46	1	1x4	0.48	--	--	--	--	--	--	--	--	160	160	310	720
	1-1/4	1-1/2x1-1/2	0.37	0.49	--	--	--	--	--	--	--	120	180	180	720
48	1-1/2	1-1/2x1-1/2	0.28	0.37	--	--	--	--	--	--	--	120	170	480	1000
	2	2x2	0.14	0.18	0.28	0.42	--	--	--	--	--	150	390	390	1300
54	1-1/2	1-1/2x1-1/2	0.42	--	--	--	--	--	--	--	--	100	140	380	790
	2	2x2	0.21	0.27	0.42	--	--	--	--	--	--	120	300	300	1030
60	2	2x2		0.47	--	--	--	--	--	--	--	100	250	250	830

NOTE:
All gratings were tested in accordance with the proposed standard of the Fiberglass Grating Manufacturers Council of the American Composites Manufacturers Association (ACMA).

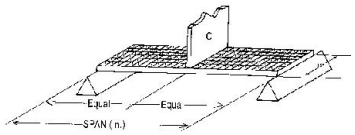
Load Tables - Fibergrate® Molded Gratings



MOLDED GRATING CONCENTRATED POINT LOAD TABLES - Deflections in Inches									
CLEAR SPAN (in)	STYLE		LOAD (lb)						
	DEPTH (in)	MESH (in x in)	50	100	200	300	500	1000	2000
18	1	1 x 4	<.01	0.01	0.02	0.03	0.06	0.11	0.22
	1	1-1/2 x 1-1/2	<.01	0.01	0.03	0.04	0.07	0.14	0.27
	1-1/2	1-1/2 x 1-1/2	<.01	<.01	0.01	0.02	0.03	0.06	0.13
	2	2 x 2	<.01	<.01	0.01	0.02	0.03	0.05	0.10
24	1	1 x 4	0.01	0.02	0.05	0.07	0.12	0.24	0.49
	1	1-1/2 x 1-1/2	0.01	0.03	0.05	0.08	0.13	0.26	--
	1-1/2	1-1/2 x 1-1/2	<.01	0.01	0.02	0.03	0.06	0.12	0.23
	2	2 x 2	<.01	<.01	0.01	0.02	0.04	0.07	0.14
	1-1/4	1-1/2 x 1-1/2	<.01	0.01	0.03	0.04	0.07	--	--
30	1	1 x 4	0.02	0.05	0.09	0.14	0.23	0.45	--
	1	1-1/2 x 1-1/2	0.03	0.05	0.10	0.15	0.26	--	--
	1-1/2	1-1/2 x 1-1/2	0.01	0.02	0.04	0.06	0.10	0.20	--
	2	2 x 2	<.01	0.01	0.02	0.03	0.06	0.12	0.23
	1-1/4	1-1/2 x 1-1/2	0.01	.03	0.05	0.08	0.13	--	--
36	1	1 x 4	0.04	0.07	0.14	0.21	0.35	--	--
	1	1-1/2 x 1-1/2	0.03	0.07	0.14	0.20	0.34	--	--
	1-1/2	1-1/2 x 1-1/2	0.02	0.03	0.06	0.09	0.15	0.30	--
	2	2 x 2	<.01	0.01	0.03	0.04	0.07	0.15	0.29
	1-1/4	1-1/2 x 1-1/2	0.02	0.03	0.07	0.10	0.16	--	--
42	1	1 x 4	0.05	0.11	0.21	0.32	--	--	--
	1	1-1/2 x 1-1/2	0.06	0.12	0.23	0.35	--	--	--
	1-1/2	1-1/2 x 1-1/2	0.02	0.04	0.09	0.13	0.22	0.44	--
	2	2 x 2	0.01	0.02	0.05	0.08	0.12	0.25	0.50
	1-1/4	1-1/2 x 1-1/2	0.03	0.06	0.11	0.17	0.28	--	--
46	1	1 x 4	0.07	0.13	0.26	0.39	--	--	--
	1	1-1/2 x 1-1/2	0.07	0.14	0.28	0.42	--	--	--
	1-1/4	1-1/2 x 1-1/2	0.04	0.07	0.15	0.22	0.37	--	--
48	1-1/2	1-1/2 x 1-1/2	0.03	0.06	0.12	0.18	0.29	--	--
	2	2 x 2	0.01	0.03	0.06	0.09	0.15	0.30	--
54	1-1/2	1-1/2 x 1-1/2	0.04	0.07	0.15	0.22	0.37	--	--
58	1-1/2	1-1/2 x 1-1/2	0.04	0.08	0.17	0.25	0.42	--	--

NOTE:
All gratings were tested in accordance with the proposed standard of the Fiberglass Grating Manufacturers Council of the American Composites Manufacturers Association (ACMA).

Load Tables - Fibergrate® Molded Gratings



MOLDED GRATING CONCENTRATED LINE LOAD TABLES - DEFLECTIONS IN INCHES										MAX RECOMMENDED LOAD (psf)			ULTIMATE CAPACITY (psf)
CLEAR SPAN	STYLE		LOAD (lb/ft of width)							RESIN SYSTEM			
	DEPTH	MESH								CORVEX®	IFR	Vi-Corr® Super Vi-Corr®	
(in)	(in)	(in x in)	50	100	200	300	500	1000	2000	ELS	FGI	XFR	
12	1	1x4	<.01	0.01	0.02	0.02	0.04	0.08	--	1180	1180	2310	5350
	1	1-1/2x1-1/2	<.01	0.01	0.03	0.04	0.06	0.13	--	790	790	1540	3560
	1-1/2	1-1/2x1-1/2	<.01	<.01	0.01	0.02	0.03	0.05	0.11	1030	1410	3850	8000
	2	2x2	<.01	<.01	<.01	0.01	0.02	0.03	0.06	1250	3130	3130	9620
	3/4	1x4	<.01	0.01	0.02	0.04	0.06	0.12	--	670	1010	1010	4060
	3/4	1-1/2x1-1/2	0.01	0.02	0.04	0.06	0.10	--	--	500	750	750	3000
	1-1/4	1-1/2x1-1/2	<.01	<.01	0.01	0.02	0.03	0.06	--	1110	1660	1660	6660
18	1	1x4	0.01	0.02	0.05	0.07	0.12	0.23	--	780	780	1540	3560
	1	1-1/2x1-1/2	0.02	0.04	0.08	0.12	0.20	0.41	--	520	520	1020	2370
	1-1/2	1-1/2x1-1/2	0.01	0.02	0.03	0.05	0.08	0.15	0.30	880	940	2560	5330
	2	2x2	<.01	0.01	0.02	0.03	0.05	0.09	0.18	830	2080	2080	6960
	3/4	1x4	0.02	0.04	0.08	0.12	0.20	--	--	450	670	670	2710
	3/4	1-1/2x1-1/2	0.03	0.06	0.13	0.19	0.32	--	--	330	500	500	2000
	1-1/4	1-1/2x1-1/2	0.01	0.02	0.04	0.06	0.10	--	--	540	810	810	3240
24	1	1x4	0.03	0.06	0.12	0.18	0.30	--	--	590	590	1150	2670
	1	1-1/2x1-1/2	0.05	0.10	0.20	0.30	0.49	--	--	390	390	770	1780
	1-1/2	1-1/2x1-1/2	0.02	0.03	0.07	0.10	0.17	0.33	--	510	700	1920	4000
	2	2x2	0.01	0.02	0.03	0.05	0.08	0.16	--	620	1560	1560	5220
	3/4	1x4	0.05	0.09	0.19	0.28	0.47	--	--	330	500	500	2030
	3/4	1-1/2x1-1/2	0.07	0.15	0.30	0.44	--	--	--	250	370	370	1500
	1-1/4	1-1/2x1-1/2	0.02	0.05	0.09	0.14	0.23	--	--	460	690	690	2760
30	1	1x4	0.05	0.11	0.22	0.32	--	--	--	470	470	920	2140
	1	1-1/2x1-1/2	0.09	0.18	0.35	--	--	--	--	310	310	610	1420
	1-1/2	1-1/2x1-1/2	0.03	0.06	0.12	0.18	0.29	--	--	410	560	1540	3200
	2	2x2	0.01	0.03	0.06	0.09	0.14	0.29	--	500	1250	1250	4180
	3/4	1x4	0.08	0.17	0.34	--	--	--	--	270	400	400	1620
	3/4	1-1/2x1-1/2	0.11	0.22	0.45	--	--	--	--	200	300	300	1200
	1-1/4	1-1/2x1-1/2	0.05	0.10	0.19	0.29	0.49	--	--	350	530	530	2130
36	1	1x4	0.09	0.17	0.34	--	--	--	--	390	390	770	1780
	1	1-1/2x1-1/2	0.16	0.33	--	--	--	--	--	260	2630	510	1180
	1-1/2	1-1/2x1-1/2	0.05	0.11	0.21	0.32	--	--	--	340	4720	1280	2660
	2	2x2	0.02	0.05	0.09	0.14	0.23	0.47	--	410	1040	1040	3480
	3/4	1x4	0.13	0.27	--	--	--	--	--	220	330	330	1350
	3/4	1-1/2x1-1/2	0.21	0.42	--	--	--	--	--	160	250	250	1000
	1-1/4	1-1/2x1-1/2	0.07	0.15	0.30	0.45	--	--	--	290	440	440	1770
42	1	1x4	0.15	0.30	--	--	--	--	--	330	330	660	1520
	1	1-1/2x1-1/2	0.23	0.45	--	--	--	--	--	220	220	440	1010
	1-1/2	1-1/2x1-1/2	0.08	0.16	0.32	0.47	--	--	--	290	400	1100	2280
	2	2x2	0.04	0.07	0.14	0.22	0.36	--	--	350	890	890	2980
	1-1/4	1-1/2x1-1/2	0.12	0.24	0.48	--	--	--	--	250	380	380	1520
46	1	1x4	0.20	0.40	--	--	--	--	--	300	300	600	1390
	1	1-1/2x1-1/2	0.32	--	--	--	--	--	--	200	200	400	900
	1-1/4	1-1/2x1-1/2	0.16	0.31	--	--	--	--	--	230	340	340	1390
48	1-1/2	1-1/2x1-1/2	0.11	0.23	0.45	--	--	--	--	250	350	960	2000
	2	2x2	0.06	0.11	0.22	0.33	--	--	--	310	780	780	2610
54	1-1/2	1-1/2x1-1/2	0.15	0.30	--	--	--	--	--	230	310	850	1770
	2	2x2	0.07	0.15	0.30	0.45	--	--	--	270	690	690	2320
60	2	2x2	0.12	0.23	0.47	--	--	--	--	250	620	620	2090

NOTE:
All gratings were tested in accordance with the proposed standard of the Fiberglass Grating Manufacturers Council of the American Composites Manufacturers Association (ACMA).

Back to Product Category

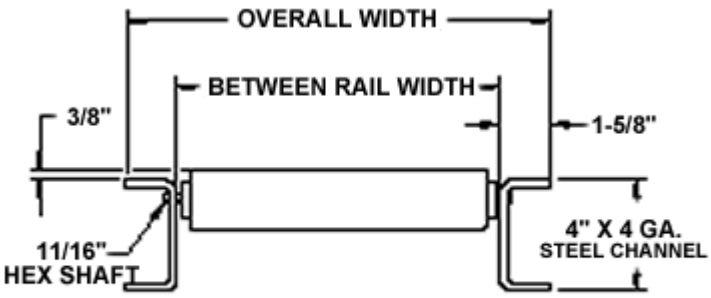
GRAVITY ROLLER CONVEYOR

2-1/2 IN. DIA. X 11 GA. ROLLERS
2-5/8 IN. DIA. X 7 GA. ROLLERS

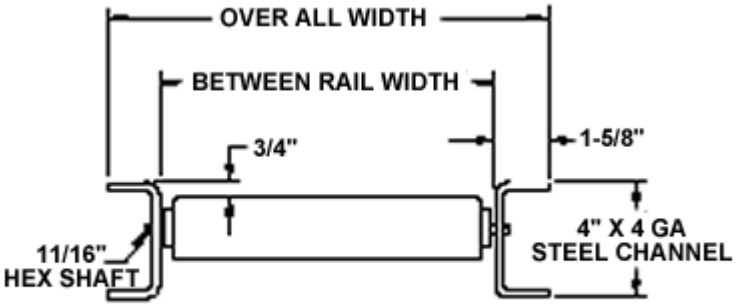
SEE BELOW FOR SUPPORTS

STATIONARY FLOOR SUPPORT

STOCK ITEMS CODED IN GREEN SHIP IN 24 HRS.



SET HIGH



SET LOW

ORDERING NOTE: Specify SET HIGH (most common) or SET LOW

Standard Specifications

WIDTHS–Between Rail Width 13 in., 15 in., 17 in., 19 in., 21 in., 23 in., 25 in., 27 in., 31 in., 33 in., 37 in., and 39 in., 43 in., 47 in., 51 in. & 55in.

FRAME–4 in. deep x 1-5/8 in. flange x 4 ga. powder painted formed steel channel with bolt-in cross members set high, welded cross members set low.

BUTT COUPLINGS–For bolting sections together.

ROLLERS– 25-SR 2-1/2 in. dia. x 11 ga. steel tubing. 26-SR 2-5/8 in. dia. x 7 ga. unplated steel tubing. Bearings are labyrinth sealed and grease packed.

AXLES–11/16 in. hex shaft, spring loaded.

CAPACITY–See Load Capacity Chart this page.

LOAD CAPACITY CHART

Support	Frame Capacity (Lbs.) Maximum Distributed	Roller Capacity (Lbs.) Max. Load per Roller	

OPTIONAL EQUIPMENT

FRAME–4 in. x 5.4 lb. powder painted structural steel channel with bolt-in cross members set high, welded cross members

Centers	Live Load Per Foot	13" to 39" BR		43" to 51" BR	
5'	1620	2-1/2"	2-5/8"	2-1/2"	2-5/8"
10'	288	630			

set low.

ORDERING NOTE: Specify SET HIGH (most common) or SET LOW

PRICING FOR 2-1/2" DIA. GRAVITY ROLLER CONVEYOR

2-1/2" DIA. X 11 GA. ROLLER STRAIGHT SECTIONS

Over All Width	Between Rail Width	Model No. 2.5 x 11 Ga	Roller Centers (inches)	Weights (Lbs.)		Price Per Section	
				5'	10'	5'	10'
16-1/4"	13"	**25SR-13-3**	3”	185	364	**$325**	**$649**
16-1/4"	13"	**25SR-13-4**	4”	155	303	**$260**	**$520**
16-1/4"	13"	**25SR-13-6**	6”	125	242	**$195**	**$391**
16-1/4"	13"	**25SR-13-8**	8”	113	212	**$163**	**$326**
16-1/4"	13"	**25SR-13-12**	12”	95	182	**$131**	**$262**
18-1/4"	15"	**25SR-15-3**	3"	200	390	**$340**	**$681**
18-1/4"	15"	**25SR-15-4**	4"	170	330	**$272**	**$544**
18-1/4"	15"	**25SR-15-6**	6"	135	260	**$204**	**$408**
18-1/4"	15"	**25SR-15-8**	8"	120	230	**$170**	**$340**
18-1/4"	15"	**25SR-15-12**	12"	105	200	**$136**	**$272**
20-1/4"	17"	**25SR-17-3**	3"	215	420	**$356**	**$713**
20-1/4"	17"	**25SR-17-4**	4"	180	350	**$284**	**$569**
20-1/4"	17"	**25SR-17-6**	6"	145	280	**$212**	**$425**
20-1/4"	17"	**25SR-17-8**	8"	125	240	**$177**	**$353**
20-1/4"	17"	**25SR-17-12**	12"	105	205	**$141**	**$281**
22-1/4"	19"	**25SR-19-3**	3”	234	458	**$372**	**$745**
22-1/4"	19"	**25SR-19-4**	4”	192	375	**$297**	**$593**
22-1/4"	19"	**25SR-19-6**	6”	151	292	**$221**	**$442**
22-1/4"	19"	**25SR-19-8**	8”	134	251	**$183**	**$366**
22-1/4"	19"	**25SR-19-12**	12”	110	209	**$145**	**$291**
24-1/4"	21"	**25SR-21-3**	3"	245	480	**$388**	**$776**
24-1/4"	21"	**25SR-21-4**	4"	200	390	**$309**	**$618**
24-1/4"	21"	**25SR-21-6**	6"	160	310	**$230**	**$459**
24-1/4"	21"	**25SR-21-8**	8"	135	260	**$190**	**$380**
24-1/4"	21"	**25SR-21-12**	12"	115	220	**$150**	**$300**
26-1/4"	23"	**25SR-23-3**	3"	260	510	**$404**	**$808**
26-1/4"	23"	**25SR-23-4**	4"	210	410	**$321**	**$642**
26-1/4"	23"	**25SR-23-6**	6"	165	320	**$238**	**$476**
26-1/4"	23"	**25SR-23-8**	8"	140	270	**$197**	**$393**
26-1/4"	23"	**25SR-23-12**	12"	120	230	**$155**	**$310**
28-1/4"	25"	**25SR-25-3**	3”	282	552	**$420**	**$840**
28-1/4"	25"	**25SR-25-4**	4”	230	447	**$333**	**$667**
28-1/4"	25"	**25SR-25-6**	6”	177	342	**$247**	**$493**
28-1/4"	25"	**25SR-25-8**	8”	156	289	**$203**	**$406**
28-1/4"	25"	**25SR-25-12**	12”	124	236	**$160**	**$320**
30-1/4"	27"	**25SR-27-3**	3"	285	560	**$436**	**$872**
30-1/4"	27"	**25SR-27-4**	4"	235	460	**$345**	**$691**

30-1/4"	27"	**25SR-27-6**	6"	180	350	**$255**	**$510**
30-1/4"	27"	**25SR-27-8**	8"	150	290	**$210**	**$420**
30-1/4"	27"	**25SR-27-12**	12"	125	240	**$165**	**$329**
34-1/4"	31"	**25SR-31-3**	3”	331	646	**$468**	**$936**
34-1/4"	31"	**25SR-31-4**	4”	267	519	**$370**	**$740**
34-1/4"	31"	**25SR-31-6**	6”	203	391	**$272**	**$544**
34-1/4"	31"	**25SR-31-8**	8”	178	328	**$223**	**$446**
34-1/4"	31"	**25SR-31-12**	12”	139	264	**$174**	**$349**
36-1/4"	33"	**25SR-33-3**	3"	330	650	**$484**	**$967**
36-1/4"	33"	**25SR-33-4**	4"	265	520	**$382**	**$764**
36-1/4"	33"	**25SR-33-6**	6"	200	390	**$281**	**$561**
36-1/4"	33"	**25SR-33-8**	8"	165	320	**$230**	**$460**
36-1/4"	33"	**25SR-33-12**	12"	135	260	**$179**	**$358**
40-1/4"	37"	**25SR-37-3**	3"	355	700	**$515**	**$1,031**
40-1/4"	37"	**25SR-37-4**	4"	285	560	**$406**	**$813**
40-1/4"	37"	**25SR-37-6**	6"	215	420	**$298**	**$595**
40-1/4"	37"	**25SR-37-8**	8"	180	350	**$243**	**$487**
40-1/4"	37"	**25SR-37-12**	12"	140	275	**$189**	**$378**
42-1/4"	39"	**25SR-39-3**	3"	375	740	**$531**	**$1,063**
42-1/4"	39"	**25SR-39-4**	4"	285	580	**$419**	**$837**
42-1/4"	39"	**25SR-39-6**	6"	220	430	**$306**	**$612**
42-1/4"	39"	**25SR-39-8**	8"	185	360	**$250**	**$500**
42-1/4"	39"	**25SR-39-12**	12"	145	280	**$194**	**$387**
46-1/4"	43"	**25SR-43-3**	3"	415	820	**$563**	**$1,126**
46-1/4"	43"	**25SR-43-4**	4"	305	620	**$443**	**$886**
46-1/4"	43"	**25SR-43-6**	6"	225	450	**$323**	**$646**
46-1/4"	43"	**25SR-43-8**	8"	195	380	**$263**	**$526**
46-1/4"	43"	**25SR-43-12**	12"	155	290	**$203**	**$407**
50-1/4"	47"	**25SR-47-3**	3"	455	900	**$595**	**$1,190**
50-1/4"	47"	**25SR-47-4**	4"	325	660	**$468**	**$935**
50-1/4"	47"	**25SR-47-6**	6"	235	470	**$340**	**$680**
50-1/4"	47"	**25SR-47-8**	8"	205	400	**$277**	**$553**
50-1/4"	47"	**25SR-47-12**	12"	165	300	**$213**	**$426**
54-1/4"	51"	**25SR-51-3**	3”	495	980	**$627**	**$1,254**
54-1/4"	51"	**25SR-51-4**	4”	345	700	**$492**	**$984**
54-1/4"	51"	**25SR-51-6**	6”	245	490	**$357**	**$715**
54-1/4"	51"	**25SR-51-8**	8”	215	420	**$290**	**$580**
54-1/4"	51"	**25SR-51-12**	12”	175	310	**$223**	**$445**
58-1/4"	55"	**25SR-55-3**	3”	535	1060	**$659**	**$1,317**
58-1/4"	55"	**25SR-55-4**	4”	365	740	**$516**	**$1,033**
58-1/4"	55"	**25SR-55-6**	6”	255	550	**$374**	**$749**
58-1/4"	55"	**25SR-55-8**	8”	225	440	**$303**	**$607**
58-1/4"	55"	**25SR-55-12**	12”	185	320	**$232**	**$464**

PRICING FOR 2-5/8" DIA. X 7 GA. ROLLER STRAIGHT SECTIONS

Over All Width	Between Rail Width	Model No. 2.6 x 11 Ga	Roller Centers (inches)	Weights (Lbs.)		Price Per Section	
				5'	10'	5'	10'

16-1/4"	13"	**26SR-13-3**	3”	217	427	**$383**	**$766**
16-1/4"	13"	**26SR-13-4**	4”	179	351	**$304**	**$608**
16-1/4"	13"	**26SR-13-6**	6”	141	274	**$225**	**$449**
16-1/4"	13"	**26SR-13-8**	8”	125	236	**$185**	**$370**
16-1/4"	13"	**26SR-13-12**	12”	102	198	**$146**	**$291**
18-1/4"	15"	**26SR-15-3**	3"	235	465	**$409**	**$818**
18-1/4"	15"	**26SR-15-4**	4"	200	390	**$323**	**$647**
18-1/4"	15"	**26SR-15-6**	6"	160	305	**$238**	**$476**
18-1/4"	15"	**26SR-15-8**	8"	135	250	**$196**	**$391**
18-1/4"	15"	**26SR-15-12**	12"	114	210	**$153**	**$306**
20-1/4"	17"	**26SR-17-3**	3"	260	515	**$435**	**$869**
20-1/4"	17"	**26SR-17-4**	4"	220	430	**$343**	**$686**
20-1/4"	17"	**26SR-17-6**	6"	175	330	**$252**	**$503**
20-1/4"	17"	**26SR-17-8**	8"	145	265	**$206**	**$412**
20-1/4"	17"	**26SR-17-12**	12"	121	220	**$160**	**$320**
22-1/4"	19"	**26SR-19-3**	3”	282	553	**$460**	**$921**
22-1/4"	19"	**26SR-19-4**	4”	228	446	**$363**	**$725**
22-1/4"	19"	**26SR-19-6**	6”	175	340	**$265**	**$530**
22-1/4"	19"	**26SR-19-8**	8”	153	286	**$216**	**$433**
22-1/4"	19"	**26SR-19-12**	12”	121	233	**$167**	**$335**
24-1/4"	21"	**26SR-21-3**	3"	310	620	**$486**	**$972**
24-1/4"	21"	**26SR-21-4**	4"	260	510	**$382**	**$765**
24-1/4"	21"	**26SR-21-6**	6"	205	380	**$278**	**$557**
24-1/4"	21"	**26SR-21-8**	8"	165	295	**$227**	**$453**
24-1/4"	21"	**26SR-21-12**	12"	135	240	**$175**	**$350**
26-1/4"	23"	**26SR-23-3**	3"	285	562	**$512**	**$1,024**
26-1/4"	23"	**26SR-23-4**	4"	230	450	**$402**	**$804**
26-1/4"	23"	**26SR-23-6**	6"	178	346	**$292**	**$584**
26-1/4"	23"	**26SR-23-8**	8"	150	290	**$237**	**$474**
26-1/4"	23"	**26SR-23-12**	12"	127	245	**$182**	**$364**
28-1/4"	25"	**26SR-25-3**	3”	346	679	**$538**	**$1,075**
28-1/4"	25"	**26SR-25-4**	4”	277	542	**$422**	**$843**
28-1/4"	25"	**26SR-25-6**	6”	268	405	**$305**	**$611**
28-1/4"	25"	**26SR-25-8**	8”	209	337	**$247**	**$495**
28-1/4"	25"	**26SR-25-12**	12”	181	140	**$189**	**$379**
30-1/4"	27"	**26SR-27-3**	3"	310	670	**$564**	**$1,127**
30-1/4"	27"	**26SR-24-4**	4"	270	530	**$441**	**$882**
30-1/4"	27"	**26SR-27-6**	6"	205	400	**$319**	**$638**
30-1/4"	27"	**26SR-27-8**	8"	141	330	**$258**	**$515**
30-1/4"	27"	**26SR-27-12**	12"	120	271	**$197**	**$393**
34-1/4"	31"	**26SR-31-3**	3”	410	805	**$615**	**$1,230**
34-1/4"	31"	**26SR-31-4**	4”	326	638	**$480**	**$961**
34-1/4"	31"	**26SR-31-6**	6”	243	471	**$346**	**$692**
34-1/4"	31"	**26SR-31-8**	8”	209	387	**$278**	**$557**
34-1/4"	31"	**26SR-31-12**	12”	159	304	**$211**	**$422**
36-1/4"	33"	**26SR-33-3**	3"	390	780	**$641**	**$1,282**
36-1/4"	33"	**26SR-33-4**	4"	310	610	**$500**	**$1,000**
36-1/4"	33"	**26SR-33-6**	6"	235	460	**$359**	**$719**

36-1/4"	33"	**26SR-33-8**	8"	190	370	**$289**	**$578**
36-1/4"	33"	**26SR-33-12**	12"	160	290	**$218**	**$437**
40-1/4"	37"	**26SR-37-3**	3"	380	752	**$692**	**$1,385**
40-1/4"	37"	**26SR-37-4**	4"	305	600	**$539**	**$1,078**
40-1/4"	37"	**26SR-37-6**	6"	230	446	**$386**	**$772**
40-1/4"	37"	**26SR-37-8**	8"	190	370	**$310**	**$619**
40-1/4"	37"	**26SR-37-12**	12"	148	298	**$233**	**$466**
42-1/4"	39"	**26SR-39-3**	3"	405	805	**$718**	**$1,436**
42-1/4"	39"	**26SR-39-4**	4"	325	640	**$559**	**$1,118**
42-1/4"	39"	**26SR-39-6**	6"	245	475	**$400**	**$799**
42-1/4"	39"	**26SR-39-8**	8"	200	390	**$320**	**$640**
42-1/4"	39"	**26SR-39-12**	12"	156	305	**$240**	**$481**
46-1/4"	43"	**26SR-43-3**	3"	455	911	**$770**	**$1,539**
46-1/4"	43"	**26SR-43-4**	4"	365	720	**$598**	**$1,196**
46-1/4"	43"	**26SR-43-6**	6"	275	533	**$426**	**$853**
46-1/4"	43"	**26SR-43-8**	8"	220	430	**$341**	**$681**
46-1/4"	43"	**26SR-43-12**	12"	172	333	**$255**	**$510**
50-1/4"	47"	**26SR-47-3**	3"	505	1017	**$821**	**$1,643**
50-1/4"	47"	**26SR-47-4**	4"	405	800	**$637**	**$1,275**
50-1/4"	47"	**26SR-47-6**	6"	305	519	**$453**	**$907**
50-1/4"	47"	**26SR-47-8**	8"	240	470	**$361**	**$723**
50-1/4"	47"	**26SR-47-12**	12"	188	361	**$270**	**$539**
54-1/4"	51"	**26SR-51-3**	3”	555	1123	**$873**	**$1,746**
54-1/4"	51"	**26SR-51-4**	4”	445	880	**$677**	**$1,353**
54-1/4"	51"	**26SR-51-6**	6”	335	649	**$480**	**$961**
54-1/4"	51"	**26SR-51-8**	8”	260	510	**$382**	**$764**
54-1/4"	51"	**26SR-51-12**	12”	204	389	**$284**	**$568**
58-1/4"	55"	**26SR-55-3**	3”	605	1229	**$924**	**$1,849**
58-1/4"	55"	**26SR-55-4**	4”	485	960	**$716**	**$1,432**
58-1/4"	55"	**26SR-55-6**	6”	365	779	**$507**	**$1,014**
58-1/4"	55"	**26SR-55-8**	8”	280	550	**$403**	**$806**
58-1/4"	55"	**26SR-55-12**	12”	220	417	**$299**	**$597**

PRICING INFORMATION

- **STANDARD WIDTHS**

  All Standard Widths to be offered 1 week from Stockyard, 10 ft. and 5 ft. lengths only.

- **STRUCTURAL CHANNEL FRAME**

  In place of formed channel (On odd lengths, use next whole foot) Set High Only.

  4" x 5.4 LB ...add-on per foot both sides..... **$4.44**
  5" x 6.7 LB Add-on per foot both sides **$8.99**
  6" x 8.2 LB Add-on per foot both sides **$17.21**

- **GUARD RAIL**

  2" x 1-5/8" x 4 ga Fixed Angle "Type A"
  both sides Add-on per foot **$10.88**
  one sides Add-on per foot **$5.44**
  2" x 1-5/8" x 4 GA Fixed Angle "Type B"
  both sides Add-on per foot **$10.88**

- **GALVANIZING**

  (25SR & 26SR)
  Add To Base Price 40%
  Galvanized construction (Frame and Rollers Only) all other parts will be HRS construction

  Note: Not rated for washdown construction
  Note: Contact us for washdown application

- **TREAD PLATES**

  Specify Roller Centers (4", 6", 8" & 12" Only)
  13"-25" BR .....Each **$47.95**
  27"-39" BR .....Each **$69.60**
  43"-55" BR .....Each **$76.04**

- **HEAVY DUTY END STOP**

  6" x 8.2 lbs. structural channel
  13"-43" BR **$52.95**

one sides Add-on per foot ..... **$5.44** 45"-55" BR **$77.26**

IMPORTANT NOTES...

- **BUTT COUPLINGS**

  Standard straight sections & curves have butt couplings on both ends.

- **SHIPPING INFORMATION**

  All 2-1/2" & 2-5/8" dia. roller gravity conveyor sections are shipped with rollers installed in frames when total weight of section is 500 lbs. or less. All sections exceeding this weight will have a portion of rollers removed and crated separately to keep weight under 500 lbs. limit.

- **OTHER WIDTHS**

  For "IN-BETWEEN WIDTHS", use next width plus 10%.
  For widths up to 74-1/4" OAW, interpolate plus 10%.
  For widths over 74-1/4" OAW, contact us.
  Does not apply to tapered rollers, contact us.

- **NON-STANDARD WIDTHS**

  Require an additional (2) weeks.

PRICING FOR ROLLERS ONLY

Between Rail Width	2-1/2" Dia. G-00472 Price Each	2-5/8" Dia. G-00487 Price Each	Tapered G-01305 Price Each
13"	$28.40	$34.60	-
15"	$30.00	$37.00	-
17"	$31.60	$39.40	-
19"	$33.40	$42.20	$318.60
21"	$35.00	$44.40	$325.20
23"	$36.80	$47.00	$332.20
25"	$38.40	$49.40	$339.40
27"	$40.00	$52.00	$346.60
31"	$43.40	$57.20	$360.60
33"	$45.00	$59.20	$366.80
37"	$48.40	$64.80	$381.00
39"	$50.20	$67.00	$388.00
43"	$53.40	$72.00	$405.80
47"	$57.00	$76.80	$441.80
51"	$60.00	$82.40	$485.20
55"	$64.80	$87.00	-

STATIONARY FLOOR SUPPORTS

FOR USE WITH 2-1/2" AND 2-5/8" ROLLER SECTIONS

PRICES FOR STATIONARY SUPPORTS INCLUDE:

- Welded Frame Assembly
- Adjustable Feet
- Adjustable Pivot Plate
- HS Capacity: 4000 lbs. ea.

Green Applies Stockyard Center Conveyor Widths Only.

"HS" SUPPORT

Model No.	Adjustment to Top of Roller	Weight (lbs.)	Price ea.
HSL-1	4-3/8" to 4-7/8"	16	$49.28
HSL-2	4-3/8" to 4-7/8"	16	$49.28
HSL-3	4-3/8" to 4-7/8"	16	$49.28
HSL-4	4-7/8" to 6-5/8"	16	$49.28
HSL-5	6-7/8" to 10-1/2"	16	$49.28
HS-1	10 1/2" to 12"	16	$49.28
HS2	12" to 15"	18	$49.62
HS-3*	15" to 18"	19-1/2	$51.28
HS-4*	18" to 21"	27	$52.84
HS-5*	21" to 24"	28-1/2	$54.72

IMPORTANT NOTES...

- **WHEN ORDERING SUPPORTS**

  Specify Overall Conveyor Width.

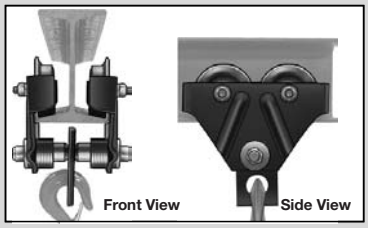
HS-6*	24" to 30"	31-1/2	**$67.16**
HS-7*	30" to 36"	35	**$73.82**
HS-8*	36" to 48"	43	**$85.36**
HS-9*	48" to 60"	49-1/2	**$95.57**
HS-l0*	60" to 72"	56	**$104.45**
HS 11*	72" to 84"	62	**$110.89**
HS-12*	84" to 96"	68	**$123.99**
HS-13*	90" to 102"	74	**$169.61**
HS-14*	102" to 114"	80	**$179.49**
HS-15*	114" to 126"	86	**$185.59**
HS 16*	126" to 138"	92	**$208.24**
HS-17*	138" to 150"	98	**$227.11**
HS 18*	150" to 162"	104	**$237.54**
HS-19*	162" to 174"	110	**$243.09**

*Price includes Knee Braces

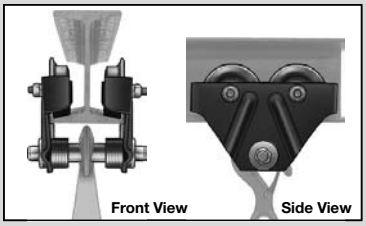
Back to Product Category

Home - Product Index - Order - Search - Quote - Info - About Us - Services

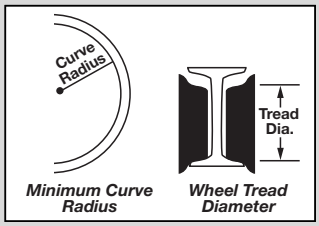
About Trolleys



Trolley with Hanger



Trolley with Crossbar



Before choosing a trolley, you'll need to know the height and flange width of the beam where you plan to mount the trolley. This way, you can be sure that the beam will accommodate the trolley's wheels and that the trolley will fit the beam's flange.

Designed especially for use with hook-mount hoists, our trolleys adjust to fit a range of beam flange widths. Plus, you don't have to slide them over the end—they can be taken apart for mounting anywhere along a beam.

Trolleys have either a hanger or a crossbar with a center groove where you attach the top hook of your hoist. The crossbar design is best suited for use where vertical space is limited.

All trolley wheels have a flange so they stay steady on the beam.

Minimum curve radius is the tightest curve along a beam that the trolley can freely navigate.

Wheel tread diameter is the part of the wheel that actually rests on the beam's flange.

Easy-Roll Manual Trolleys

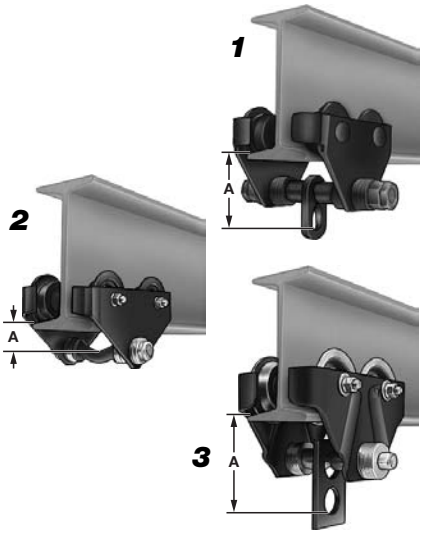
● Cast iron wheels ● Maintenance-free ball bearings ● Steel body

These trolleys are easy to roll. The body has wraparound bumpers to protect the wheels and to prevent the load from dropping if a wheel axle fails. The included spacing washers can be added and removed to fit the beam flange width. Use trolleys on tapered and wide (flat) flange beams.

CM 633 trolleys are known for their reliable service.

Premium offer quiet operation. They also have precision ball bearings for long life. *Style 2* has a ¾" dia. crossbar for hanging (no hanger). *Style 3* allows you to remove the hanger and use the crossbar for hanging if vertical space is limited.

Also Available: Replacement wheels for premium trolleys. Please ask for 3269T78 and specify trolley capacity.

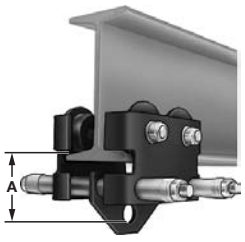


Cap., lbs.	Fits Beam Flange Wd.	Min. Beam Ht.	(A)	Min. Curve Radius	Wheel Tread Dia.	Hanger Hole Dia.		Each
CM 633								
1 1,000	2½" -5⅝"	3"	4³⁄₃₂"	35"	2⁹⁄₃₂"	³¹⁄₃₂"	9482T74	$140.60
1 2,000	3" -8"	5"	5¹⁄₁₆"	35"	3¹⁵⁄₃₂"	1⁵⁄₃₂"	9482T75	166.84
1 4,000	3⅝" -8"	6"	5¹³⁄₁₆"	59"	3¹⁵⁄₁₆"	1⅝"	9482T76	275.96
1 6,000	4" -8"	8"	7⁷⁄₁₆"	71"	5⅛"	1³¹⁄₃₂"	9482T77	396.86
1 10,000	4⅝" -8"	10"	9¹⁵⁄₁₆"	94"	6⅛"	2⁹⁄₁₆"	9482T78	619.24
Premium								
2 300	2⁵⁄₁₆"-4⅝"	3"	2⅛"	18"	2¼"	___	3269T51	125.71
3 1,000	2⅝" -4⅝"	4"	5¹⁄₃₂"	24"	3⅛"	1½"	3269T52	141.36
3 2,000	3" -5¼"	5"	5⅜"	36"	4"	1½"	3269T53	167.18
3 4,000	3⁵⁄₁₆"-6"	6"	5½"	48"	4⅞"	1½"	3269T54	273.49
3 6,000	4" -8"	8"	7¼"	60"	4¼"	2½"	3269T55	399.48
3 10,000	4⅝" -8"	10"	7½"	60"	4⅜"	2½"	3269T56	604.85

Extra-Stable Manual Trolleys

● Steel wheels ● Maintenance-free ball bearings ● Steel body

Two zinc-plated steel connecting bolts not only provide added stability and strength, but also allow trolleys to fit on a wider range of beam flange widths. The body has wraparound bumpers to protect the wheels and to prevent the load from dropping if a wheel axle fails. The included spacing washers can be added and removed to fit the beam flange width. Use trolleys on tapered and wide (flat) flange beams.

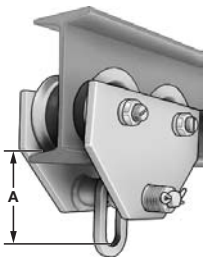


Cap., lbs.	Fits Beam Flange Wd.	Min. Beam Ht.	(A)	Min. Curve Radius	Wheel Tread Dia.	Hanger Hole Dia.		Each
550	2" -8¹¹⁄₁₆"	4"	3¹⁵⁄₁₆"	27"	2¹¹⁄₃₂"	1³⁄₁₆"	3267T61	$118.47
1100	2" -8¹¹⁄₁₆"	4"	3¹⁵⁄₁₆"	27"	2¹¹⁄₃₂"	1³⁄₁₆"	3267T62	121.41
2200	2⁷⁄₃₂"-8¹¹⁄₁₆"	5"	4⁵⁄₁₆"	36"	2¹¹⁄₃₂"	1⅜"	3267T63	142.56
4400	2⁷⁄₃₂"-8¹¹⁄₁₆"	6"	5⅛"	45"	3⁵⁄₃₂"	1⅞"	3267T64	231.91
6600	3" -8¹¹⁄₁₆"	8"	6³⁄₁₆"	55"	4¹³⁄₃₂"	2¹¹⁄₃₂"	3267T65	398.74

Brawny Manual Trolleys

● Cast iron or steel wheels ● Maintenance-free ball bearings ● Steel body

Constructed of heavy-gauge steel, these are some of the most rugged trolleys around. The body extends past the wheels to protect them from damage. The included spacing washers can be added and removed to fit the beam flange width. Use trolleys on tapered and wide (flat) flange beams (unless noted).



Cap., lbs.	Fits Beam Flange Wd.	Min. Beam Ht.	(A)	Min. Curve Radius	Wheel Tread Dia.	Hanger Hole Dia.		Each
With Cast Iron Wheels								
2,000	3" -5⅝"	5"	5³⁄₄"	36"	4"	1½"	3270T25	$276.10
4,000	3¼"-7"	6"	6½"	36"	4"	1½"	3270T26	386.92
With Steel Wheels								
8,000	4" -6½"	8"	7³⁄₄"	42"	5"	2½"	3270T29♦	626.10
12,000	4⅝"-7⅛"	10"	8³⁄₄"	54"	6"	2¾"	3270T28♦	918.15

♦ Use on tapered flange beams only.

Warning! ***Never exceed capacities. Never use to lift people or items over people.***

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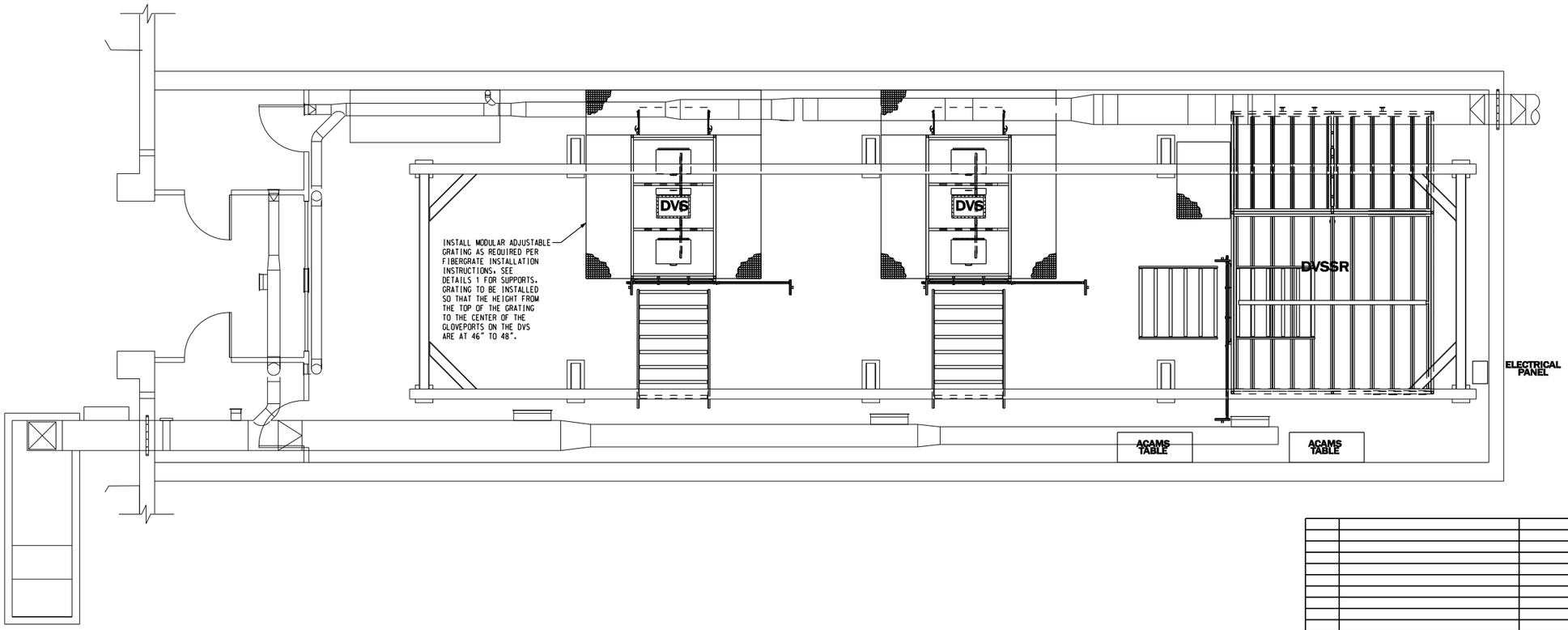
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJ/ENGR.	PROJ/ENGR.	LEAD ENGR.	PROJ/MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

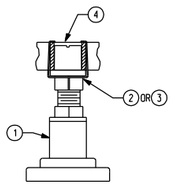
REFERENCE DRAWINGS:

EG-22-M-8220 OFF SITE AREA 10 SECONDARY WASTE SAMPLING DVSSR GENERAL ASSEMBLY
EG-22-M-8230 OFF SITE AREA 10 SECONDARY WASTE SAMPLING DVS GENERAL ASSEMBLY



				14
				13
				12
				11
				10
				9
				8
				7
				6
				5
AS REQ'D	4'x4' GRATES 1.5" SQUARE AND 1.5" THK.	FIBERGRATE		4
AS REQ'D	QUAD HEADED GRATE PLUGS, 1 1/2"	FIBERGRATE		3
AS REQ'D	SINGLE HEADED GRATE PLUGS, 1 1/2"	FIBERGRATE		2
AS REQ'D	8"-11 1/2" ADJUSTABLE HEIGHT LEG	FIBERGRATE		1
QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM

Bill of Material



DETAIL 1

0A	ISSUED FOR CONSTRUCTION		
Symbol	Description	Date	Approved

Revisions

NOT FOR CONSTRUCTION

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
BREAK SHARP EDGES - .005/.015
DECIMAL TOLERANCE AFTER FINISH
.X =±.1
.XX =±.06
.XXX =±.015
ANGLES =±0°-30'

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

EG&G A Division of URS

US Army Corps of Engineers

TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
IGLOO 1632 GENERAL ARRANGEMENT PLAN

Drawn by: SD NICHOLES	Date: 06/30/08				
Checked by:	EG&G Approved:	Scale: NO SCALE	Sheet reference number: EG-22-G-8219	EG&G Contract No. DACA87-89-C-0076	
Engineer:	PMCD Mgr. Concur: N/A			Sheet 1 of 1	Rev. 0A

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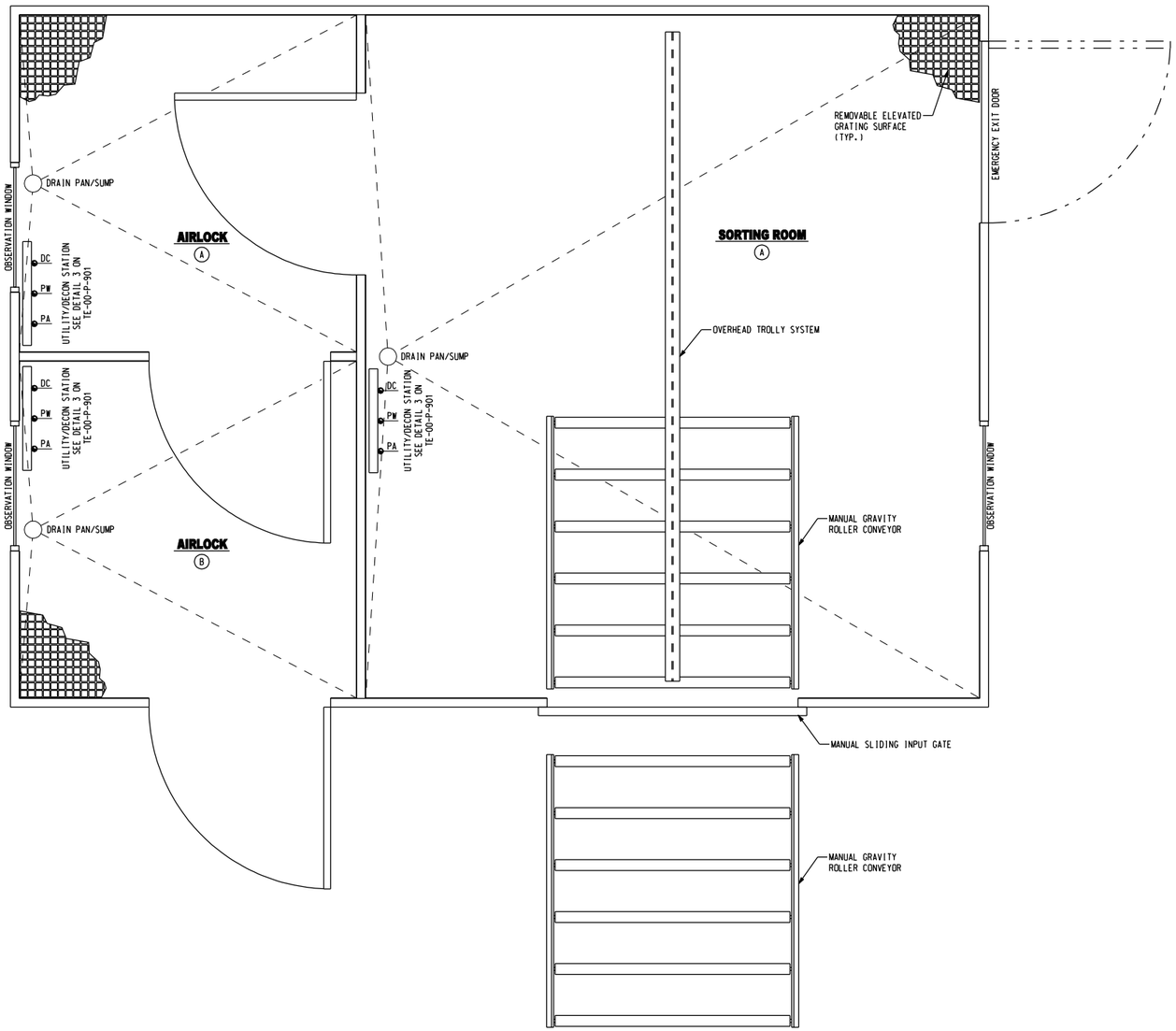
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJ. ENGR.	LEAD ENGR.	PROJ. MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

REFERENCE DRAWINGS:

EG-22-M-8220 OFF SITE AREA 10 SECONDARY WASTE SAMPLING DVSSR GENERAL ASSEMBLY



NOT FOR CONSTRUCTION

Symbol	Description	Date	Approved
0A	ISSUED FOR CONSTRUCTION		

Revisions

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

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CORPS OF ENGINEERS
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CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - GENERAL ARRANGEMENT PLAN

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BREAK SHARP EDGES - .005/.015
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ANGLES =±0°-30'

Drawn by: SD NICHOLES	Date: 06/30/08				
Checked by:	EG&G Approved:	Scale:	Sheet reference number:	EG&G Contract No. DACA87-89-C-0076	
Engineer:	PMCD Mgr. Concur: N/A	NO SCALE	EG-22-G-8220	Sheet 1 of 1	Rev. 0A

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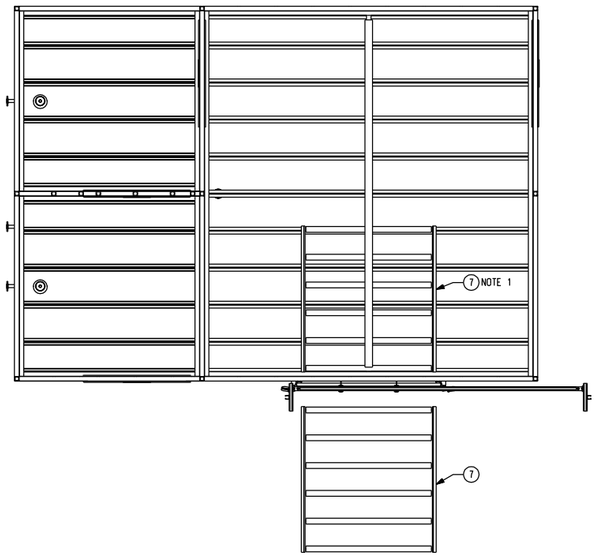
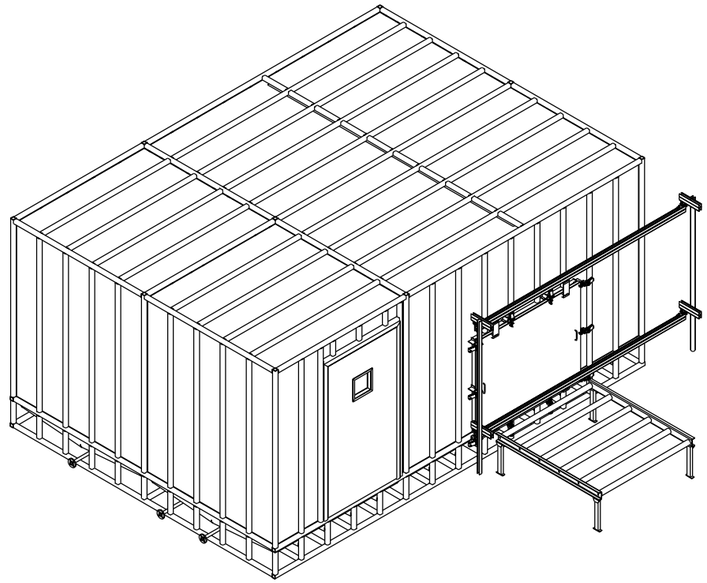
DRAWING STATUS

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJ./ ENGR.	LEAD ENGR.	PROJ./ MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						



ASSEMBLY TOP VIEW
(TOP STRUCTURE REMOVED FOR CLARITY)



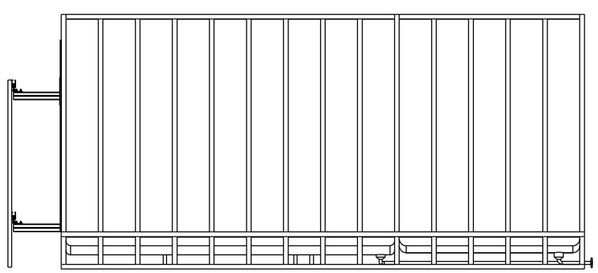
ASSEMBLY ISOMETRIC VIEW

NOTES:

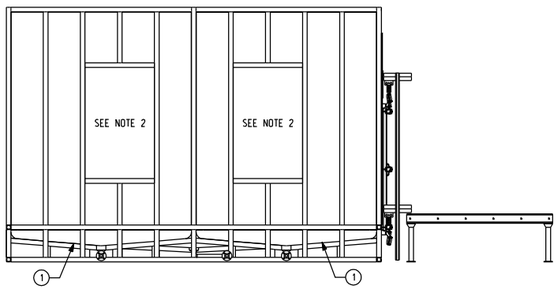
1. SHIM CONVEYOR 3/4" AND SPOT WELD CONVEYOR TO INTERIOR FRAME WELDMENT. SEE EG-22-M-8224 FOR INTERIOR FRAME.
2. SEE EG-22-M-8229 FOR DOOR AND WINDOW DETAILS.
3. ALL INTERIOR SURFACE TO BE PAINTED WITH EPOLOID PER SPEC 09900.

NOT FOR CONSTRUCTION

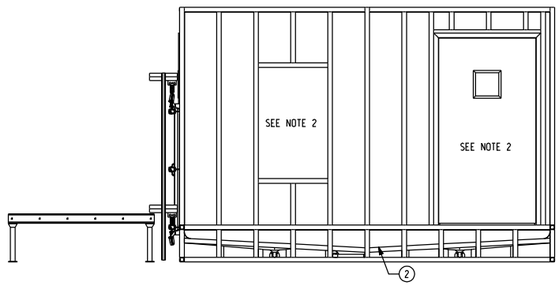
ASSEMBLY FRONT VIEW



ASSEMBLY BACK VIEW



ASSEMBLY LEFT SIDE VIEW



ASSEMBLY RIGHT SIDE VIEW

QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM
				13
				12
				11
				10
				9
2	CONVEYOR SUPPORTS, FOR 55", 18" TO 21"	GILMORE-KRAMER	HS-4	8
2	CONVEYOR, SET LOW, 2 1/2" DIA. x 11 GA. ROLLER, 12" O.C. 10' LONG	GILMORE-KRAMER	255R-55-12	7
1	DOOR TROLLEY ASSEMBLY		EG-22-M-8228	6
1	DOOR ASSEMBLY		EG-22-M-8227	5
1	UPPER FRAME/ENCLOSURE ASSEMBLY		EG-22-M-8225 & 8226	4
1	LOWER FRAME/ENCLOSURE ASSEMBLY		EG-22-M-8223 & 8224	3
1	SORTING ROOM DRAIN PAN ASSEMBLY		EG-22-M-8222	2
2	AIRLOCK DRAIN PAN ASSEMBLY		EG-22-M-8221	1

Bill of Material

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
BREAK SHARP EDGES - .005/.015
DECIMAL TOLERANCE AFTER FINISH
.X =±.1
.XX =±.06
.XXX =±.015
ANGLES =±0°-30'

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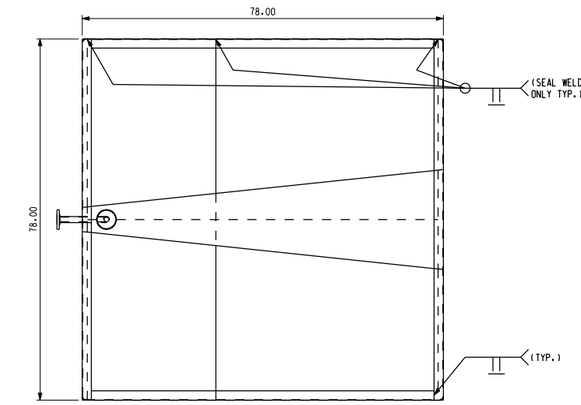
TOOELE ARMY DEPOT
TOOELE, UTAH

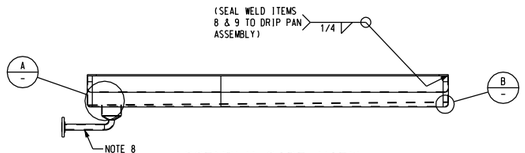
CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - GENERAL ASSEMBLY

Drawn by:	Date:	Checked by:	EG&G Approved:	Scale:	Sheet reference number:	EG&G Contract No.
SD NICHOLES	06/30/08	Engineer:	PMCD Mgr. Concur: N/A	NO SCALE	EG-22-M-8220	DACA87-89-C-0076

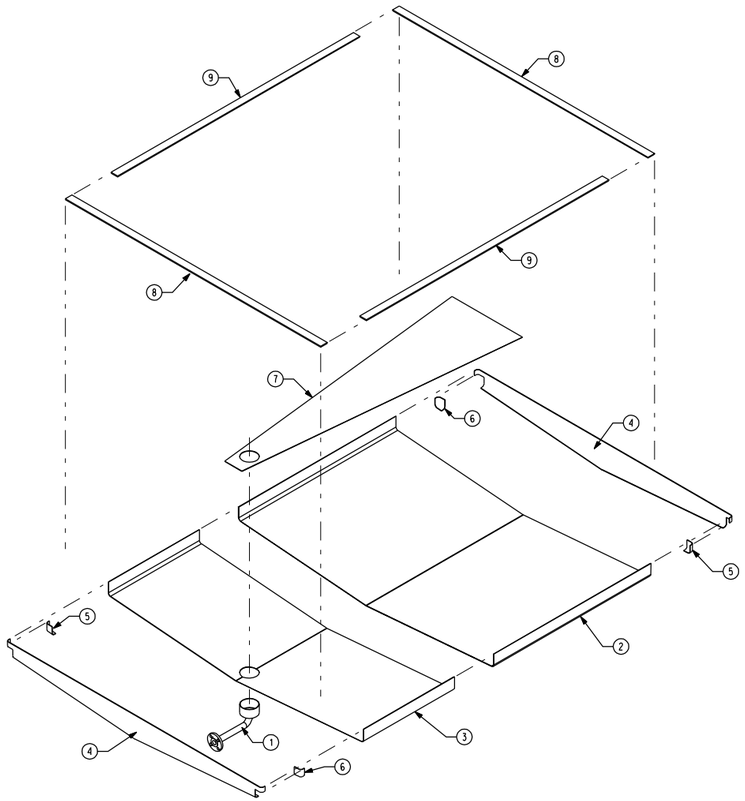
Sheet 1 of — Rev. 0A



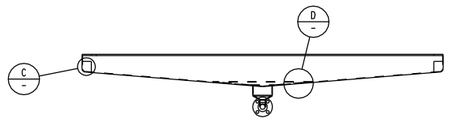
ASSEMBLY TOP VIEW



ASSEMBLY SIDE VIEW



EXPLODED ISOMETRIC ASSEMBLY



ASSEMBLY END VIEW

NOTES:

1. ALL INTERIOR WELDS SHALL BE SEAL WELDS.
2. ALL INTERIOR WELDS SHALL BE GROUND WITH 150 GRIT TO A 2B SURFACE FINSIH.
3. ALL BEND RELIEFS TO BE MINIMUM.
4. ALL INTERIOR BEND RADII TO BE MINIMUM OF 5/8".
5. CONDITION PARTS FOR SAFE HANDLING NO CUTTING EDGES PERMISSIBLE.
6. CLEAN AND PREPARE WELD SURFACES TO COMPLY WIH WELD CALLOUTS AND APPLICABLE SPECIFICATIONS.
7. PARTS TO BE CLEAN OF ANY WELD SPLATTER.
8. PIPING FROM DRAIN TO BE ROUTED AFTER DRAIN PAN IS ATTACHED TO LOWER FRAME.

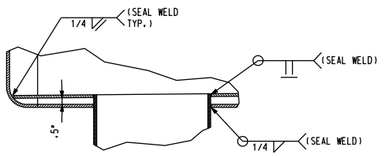
NOT FOR CONSTRUCTION

DRAWING STATUS									
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJ/ENGR.	PROJ/ENGR.	LEAD ENGR.	PROJ/MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

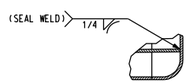
QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM
				13
				12
				11
				10
2	PLATE, 1/4"x2"x74", CS			9
2	PLATE, 1/4"x2"x78", CS			8
1	SHEET, 12 GA, 21.50" x 77.75", CS		SEE SHEET 2	7
2	SHEET, 12 GA, 2.40" x 2.61", CS		SEE SHEET 2	6
2	SHEET, 12 GA, 2.40" x 2.61", CS		SEE SHEET 2	5
2	SHEET, 12 GA, 7.38" x 79.29", CS		SEE SHEET 2	4
1	SHEET, 12 GA, 27.76" x 168.86", CS		SEE SHEET 2	3
1	SHEET, 12 GA, 48" x 168.86", CS		SEE SHEET 2	2
1	DRAIN FLANGE ASSEMBLY		SEE SHEET 2	1

Bill of Material

NOTE: MATERIAL LIST IS FOR ONE ASSEMBLY.



DETAIL A



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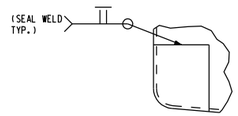
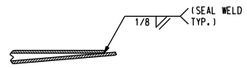


DETAIL C



DETAIL D

Symbol	Description	Date	Approved
	Revisions		
0A	ISSUED FOR CONSTRUCTION		

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

EG&G A Division of URS

US Army Corps of Engineers

TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)

DVSSR-AIRLOCK DRAIN PAN ASSEMBLY

Drawn by: SD NICHOLES	Date: 06/30/08			
Checked by:	EG&G Approved:	Scale: NO SCALE	Sheet reference number: EG-22-M-8221	EG&G Contract No. DACA87-89-C-0076
Engineer:	PMCD Mgr. Concur: N/A			Sheet 1 of 2 / Rev. 0A

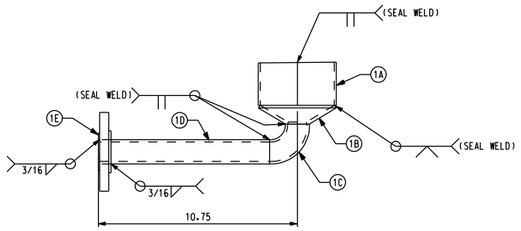
QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM
1	FLANGE, 1", 150#, RF, SO, CS			1E
AS REQ'D	PIPE, 1", SCH 40, CS			1D
1	ELBOW, 90°, 1", SCH 40, BW, CS			1C
1	SHEET, 12 GA, CS			1B
1	SHEET, 12 GA, 2.34" x 12.76", CS			1A
1	DRAIN FLANGE ASSEMBLY			1

Bill of Material

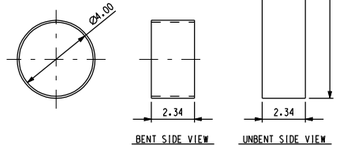
DRAWING STATUS									
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJ/ENGR.	PROJ./ENGR.	LDC ENGR.	PROJ./MGR.	O.A.D.C. MGR.
OA	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

NOTES:
1. SEE SHEET 1 FOR NOTES.

NOT FOR CONSTRUCTION

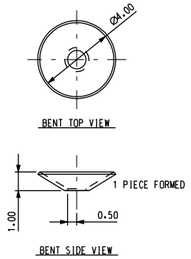


DRAIN FLANGE ASSEMBLY (1)



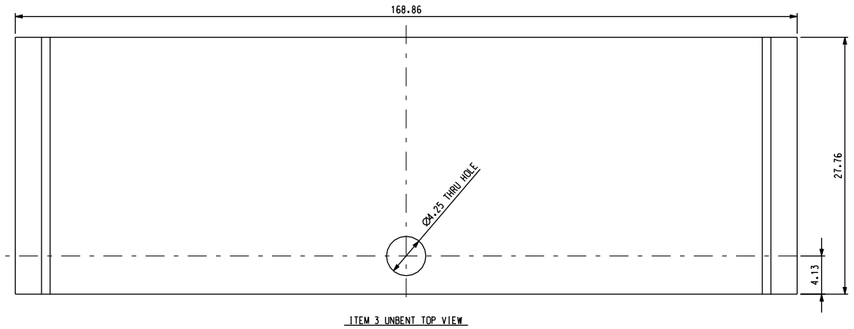
BENT SIDE VIEW UNBENT SIDE VIEW

ITEM (1A)

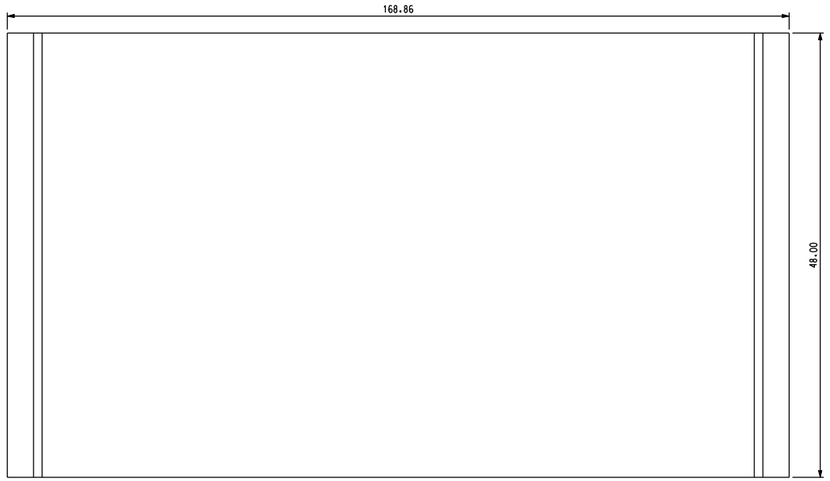


BENT TOP VIEW BENT SIDE VIEW

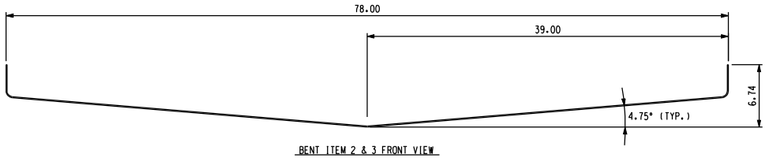
ITEM (1B)



ITEM 3 UNBENT TOP VIEW

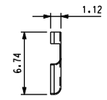


ITEM 2 UNBENT TOP VIEW

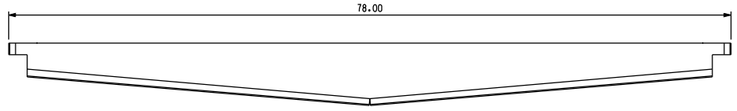


BENT ITEM 2 & 3 FRONT VIEW

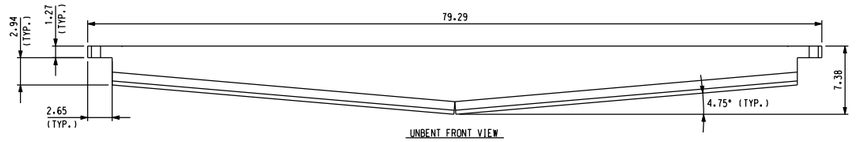
ITEMS (2)(3)



BENT SIDE VIEW

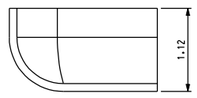


BENT FRONT VIEW

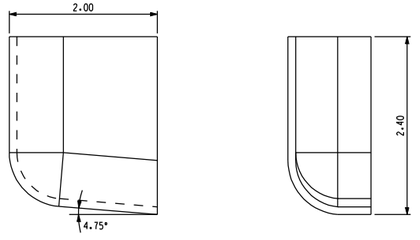


UNBENT FRONT VIEW

ITEM (4)
(1 AS SHOWN, 1 MIRRORED)

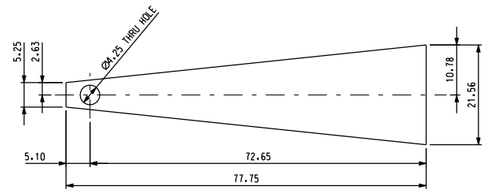


BENT TOP VIEW



BENT FRONT VIEW BENT SIDE VIEW

ITEMS (5)(6)
ITEM 5 - 2 AS SHOWN
ITEM 6 - 2 MIRRORED



ITEM (7)

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
BREAK SHARP EDGES - .005/.015
DECIMAL TOLERANCE AFTER FINISH
.X =±.1
.XX =±.06
.XXX =±.015
ANGLES =±0°-30'

Symbol	Description	Date	Approved
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Revisions

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US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

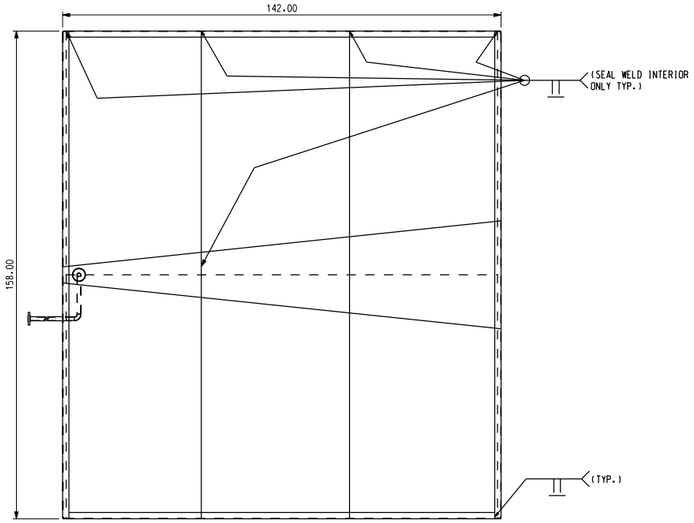
EG&G A Division of URS

US Army Corps of Engineers

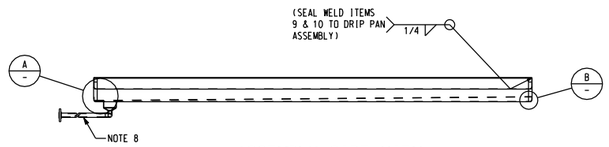
TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR-AIRLOCK DRAIN PAN ASSEMBLY

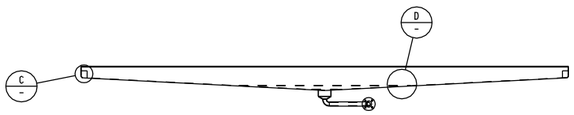
Drawn by:	Date:	Scale:	Sheet reference number:	EG&G Contract No.
SD NICHOLES	06/30/08	NO SCALE	EG-22-M-8221	DACA87-89-C-0076
Checked by:	EG&G Approved:			
Engineer:	PMCD Mgr. Concur: N/A		Sheet 2 of 2	Rev. OA



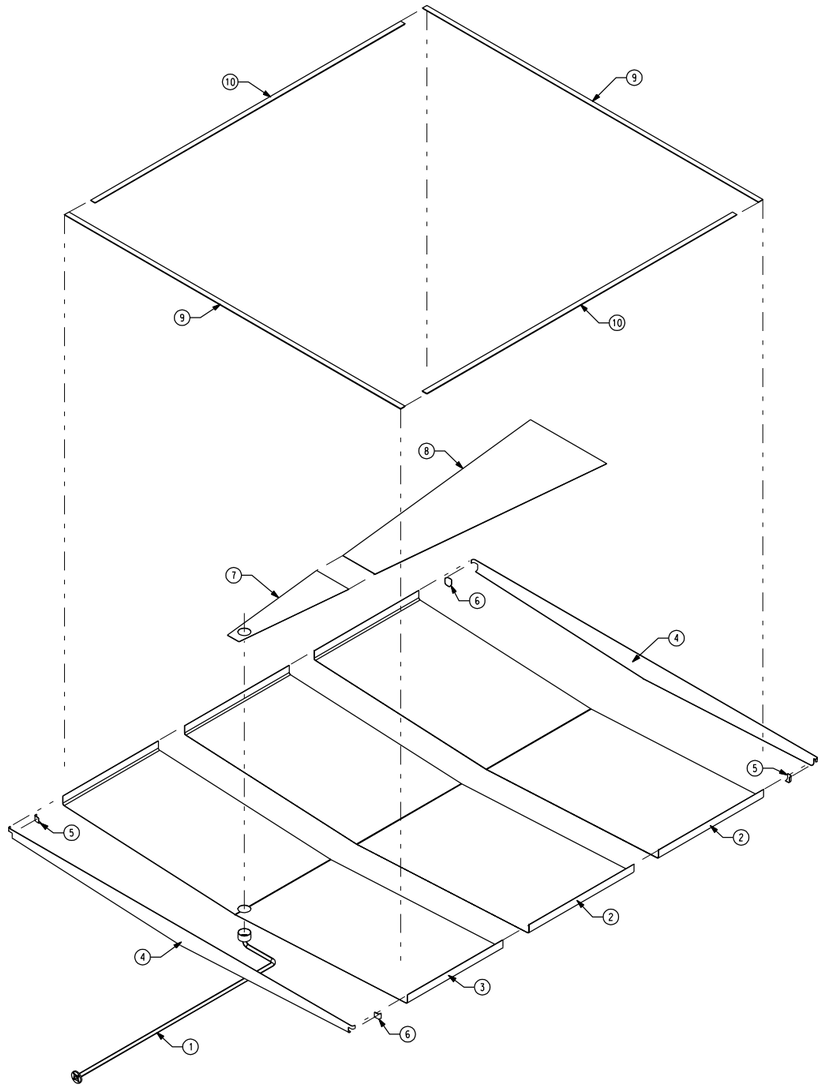
ASSEMBLY TOP VIEW



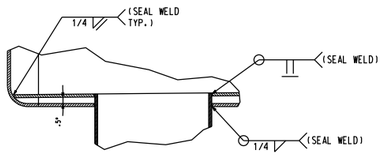
ASSEMBLY SIDE VIEW



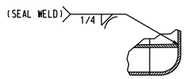
ASSEMBLY END VIEW



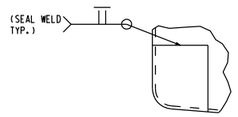
EXPLODED ISOMETRIC ASSEMBLY



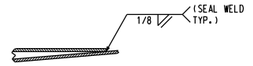
DETAIL A



DETAIL B



DETAIL C



DETAIL D

DRAWING STATUS

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJECT ENGR.	LEAD ENGR.	PROJECT MGR.	D.A.D.C. MGR.
OA	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

NOTES:

1. ALL INTERIOR WELDS SHALL BE SEAL WELDS.
2. ALL INTERIOR WELDS SHALL BE GROUND WITH 150 GRIT TO A 2B SURFACE FINSIH.
3. ALL BEND RELIEFS TO BE MINIMUM.
4. ALL INTERIOR BEND RADII TO BE MINIMUM OF 5/8".
5. CONDITION PARTS FOR SAFE HANDLING NO CUTTING EDGES PERMISSIBLE.
6. CLEAN AND PREPARE WELD SURFACES TO COMPLY WIH WELD CALLOUTS AND APPLICABLE SPECIFICATIONS.
7. PARTS TO BE CLEAN OF ANY WELD SPLATTER.
8. PIPING FROM DRAIN TO BE ROUTED AFTER DRAIN PAN IS ATTACHED TO LOWER FRAME.

NOT FOR CONSTRUCTION

				13
				12
				11
2	PLATE, 1/4"x2"x138", CS			10
2	PLATE, 1/4"x2"x158", CS			9
1	SHEET, 12 GA. 35.00" x 97.00", CS		SEE SHEET 3	8
1	SHEET, 12 GA. 14.64" x 44.78", CS		SEE SHEET 3	7
2	SHEET, 12 GA. 2.40" x 2.61", CS		SEE SHEET 2	6
2	SHEET, 12 GA. 2.40" x 2.61", CS		SEE SHEET 2	5
2	SHEET, 12 GA. 8.29" x 159.29", CS		SEE SHEET 2	4
1	SHEET, 12 GA. 43.76" x 163.33", CS		SEE SHEET 2	3
2	SHEET, 12 GA. 48" x 164.33", CS		SEE SHEET 2	2
1	DRAIN FLANGE ASSEMBLY		SEE SHEET 2	1
QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM

Bill of Material

Symbol	Description	Date	Approved
OA	ISSUED FOR CONSTRUCTION		

Revisions

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

EG&G A Division of URS

US Army Corps of Engineers

TOOELE ARMY DEPOT
TOOELE, UTAH

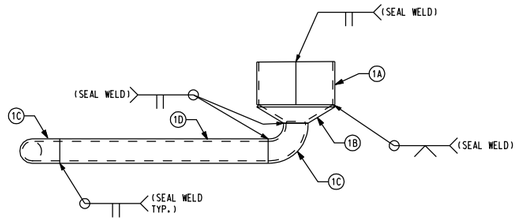
CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR-SORTING ROOM DRAIN PAN ASSEMBLY

Drawn by: SD NICHOLES	Date: 06/30/08		
Checked by:	EG&G Approved:	Scale: NO SCALE	Sheet reference number: EG-22-M-8222
Engineer:	PMCD Mgr. Concur: N/A		Sheet 1 of 3

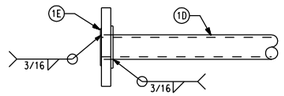
EG&G Contract No. DACA87-89-C-0076

Rev. OA

UNCONTROLLED COPY - UNLESS STAMPED OTHERWISE BY DCC



VIEW A



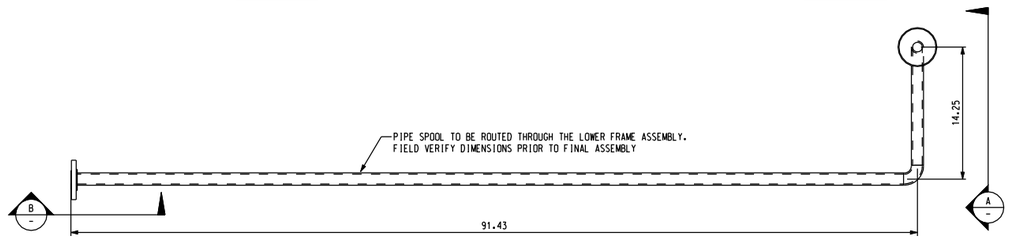
VIEW B

QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM
1	FLANGE, 1", 150#, RF, SO, CS			1E
AS REQ'D	PIPE, 1", SCH 40, CS			1D
2	ELBOW, 90°, 1", SCH 40, BW, CS			1C
1	SHEET, 12 GA, CS			1B
1	SHEET, 12 GA, 2.34" x 12.76", CS			1A
1	DRAIN FLANGE ASSEMBLY			1

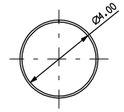
Bill of Material

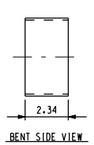
DRAWING STATUS								
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJ/SYS ENGR.	PROJ./ ENGR.	LOG ENGR.	PROJ./ MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

NOTES:
1. SEE SHEET 1 FOR NOTES.

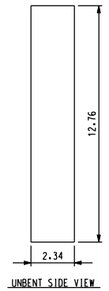


DRAIN FLANGE ASSEMBLY (1)



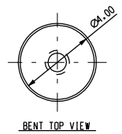


BENT SIDE VIEW

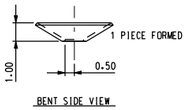


UNBENT SIDE VIEW

ITEM (1A)

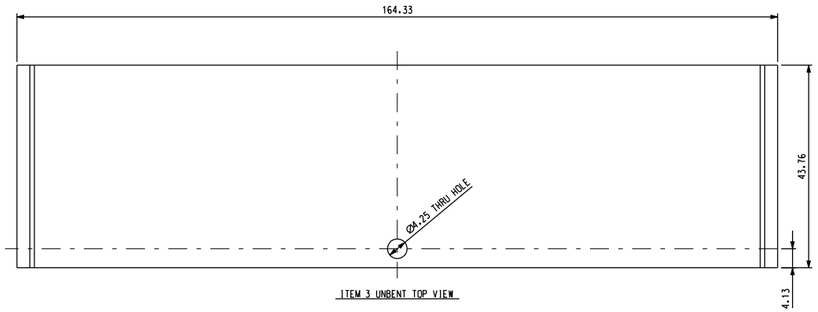


BENT TOP VIEW

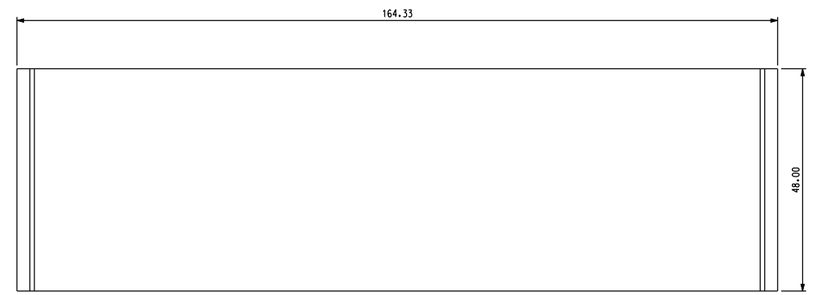


BENT SIDE VIEW

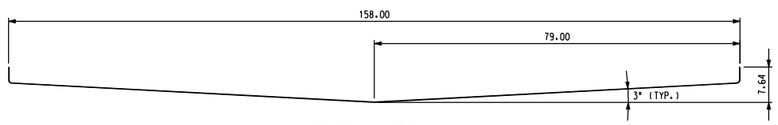
ITEM (1B)



ITEM 3 UNBENT TOP VIEW

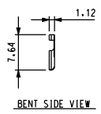


ITEM 2 UNBENT TOP VIEW

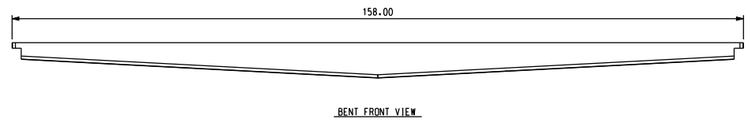


BENT ITEM 2 & 3 FRONT VIEW

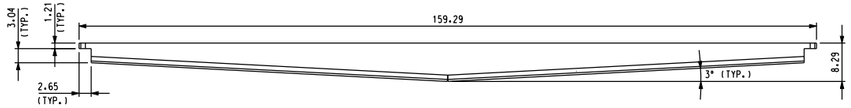
ITEMS (2)(3)



BENT SIDE VIEW

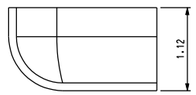


BENT FRONT VIEW

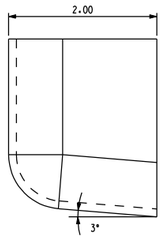


UNBENT FRONT VIEW

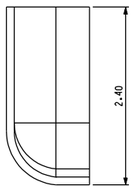
ITEM (4)
(1 AS SHOWN, 1 MIRRORED)



BENT TOP VIEW



BENT FRONT VIEW



BENT SIDE VIEW

ITEMS (5)(6)
ITEM 5 - 2 AS SHOWN
ITEM 6 - 2 MIRRORED

NOT FOR CONSTRUCTION

Symbol	Description	Date	Approved
	Revisions		
0A	ISSUED FOR CONSTRUCTION		

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
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US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

EG&G A Division of URS

US Army Corps of Engineers

TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR-AIRLOCK DRAIN PAN ASSEMBLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
BREAK SHARP EDGES - .005/.015
DECIMAL TOLERANCE AFTER FINISH
.X =±.1
.XX =±.06
.XXX =±.015
ANGLES =±0°-30'

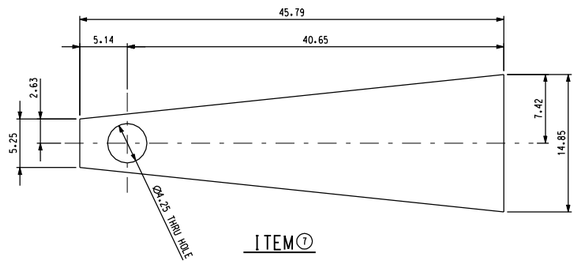
Drawn by:	Date:	EG&G Approved:	Scale:	Sheet reference number:	EG&G Contract No.
SD NICHOLES	06/30/08		NO SCALE	EG-22-M-8222	DACA87-89-C-0076
Checked by:					
Engineer:		PMCD Mgr. Concur: N/A		Sheet 2 of 3	Rev. 0A

DRAWING STATUS

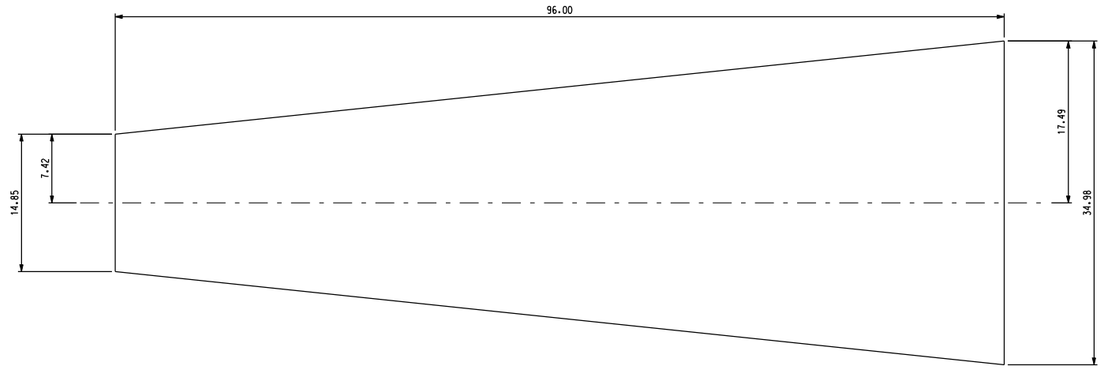
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJ/SYS ENGR.	PROJ/ENGR.	LOG ENGR.	PROJ/MGR.	Q.A./C.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

NOTES:

1. SEE SHEET 1 FOR NOTES.



ITEM ⑦



ITEM ⑧

NOT FOR CONSTRUCTION

Symbol	Description	Date	Approved
0A	ISSUED FOR CONSTRUCTION		

Revisions

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
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EG&G A Division of URS

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TOOELE ARMY DEPOT
TOOELE, UTAH

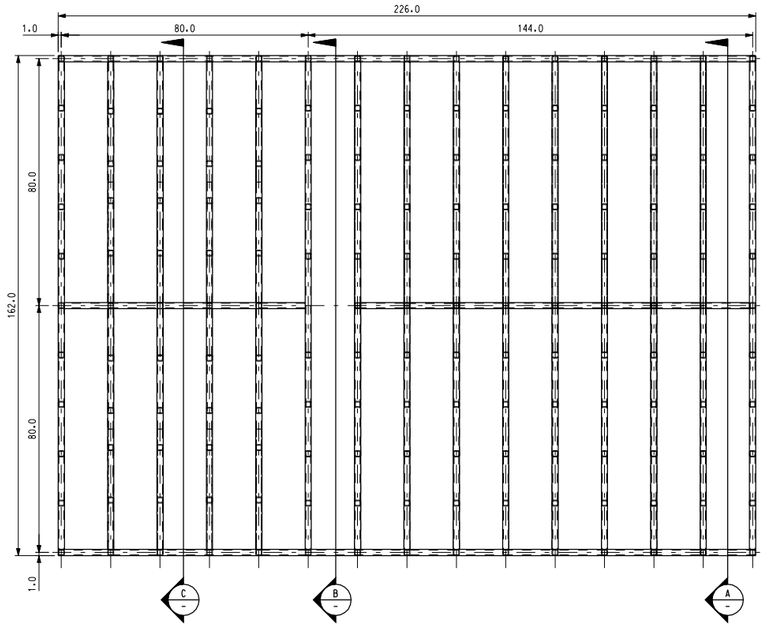
CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR-AIRLOCK DRAIN PAN ASSEMBLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
BREAK SHARP EDGES - .005/.015
DECIMAL TOLERANCE AFTER FINISH
.X =±.1
.XX =±.06
.XXX =±.015
ANGLES =±0°-30'

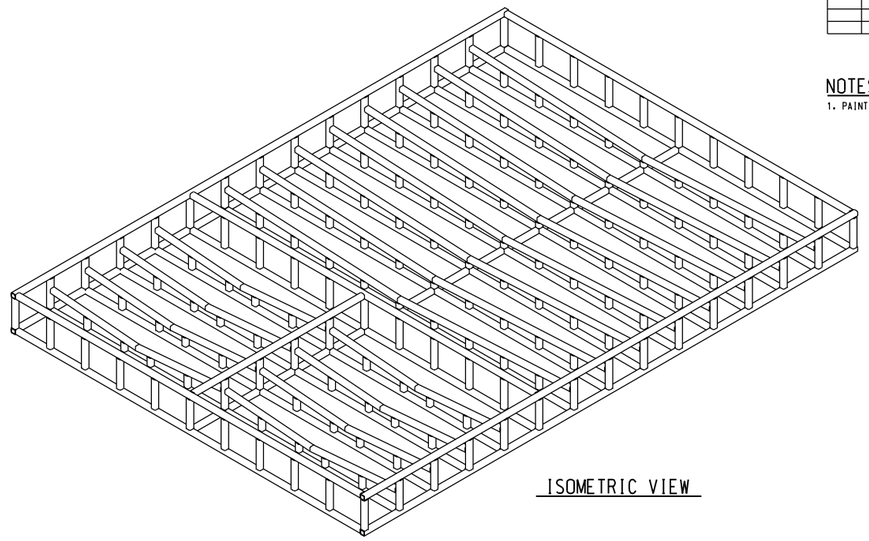
Drawn by: SD NICHOLES	Date: 06/30/08	Scale: NO SCALE	Sheet reference number: EG-22-M-8222	EG&G Contract No. DACA87-89-C-0076
Checked by:	EG&G Approved:			
Engineer:	PMCD Mgr. Concur: N/A			Sheet 3 of 3 / Rev. 0A

DRAWING STATUS

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJ. ENGR.	LEC ENGR.	PROJ. MGR.	G.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						



TOP VIEW

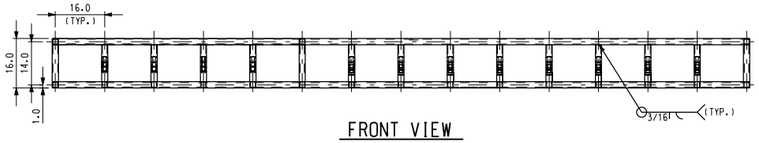


ISOMETRIC VIEW

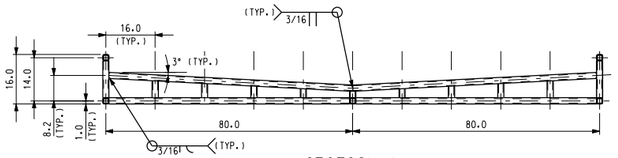
NOTES:

1. PAINT PER SPECIFICATION 09900.

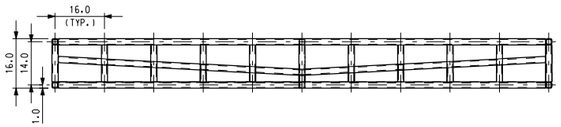
NOT FOR CONSTRUCTION



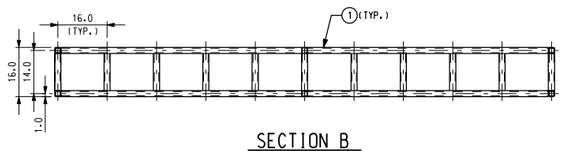
FRONT VIEW



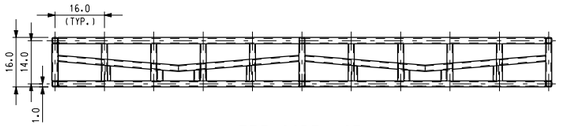
SECTION A



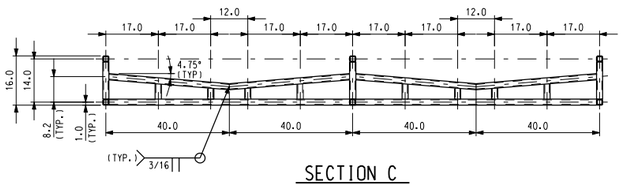
RIGHT SIDE VIEW



SECTION B



LEFT SIDE VIEW



SECTION C

				13
				12
				11
				10
				9
				8
				7
				6
				5
				4
				3
				2
AS REQ'D	HSS, 2"x2"x1/4", A500 GR. G, CS			1
QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM

Bill of Material

Symbol	Description	Date	Approved
0A	ISSUED FOR CONSTRUCTION		

Revisions

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

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TOOELE ARMY DEPOT
TOOELE, UTAH

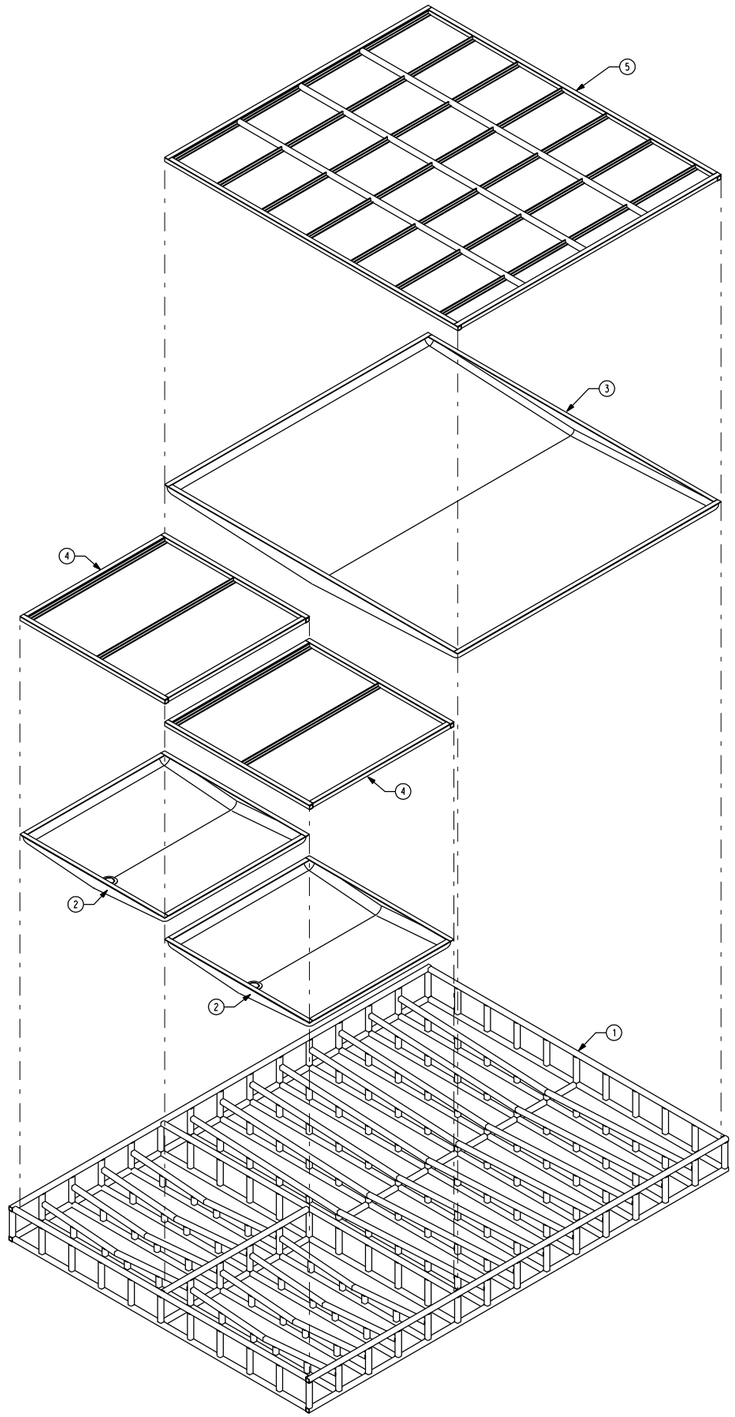
CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - LOWER FRAME ASSEMBLY

Drawn by: SD NICHOLES	Date: 06/30/08		
Checked by:	EG&G Approved:	Scale: NO SCALE	Sheet reference number: EG-22-M-8223
Engineer:	PMCD Mgr. Concur: N/A		Sheet 1 of 1

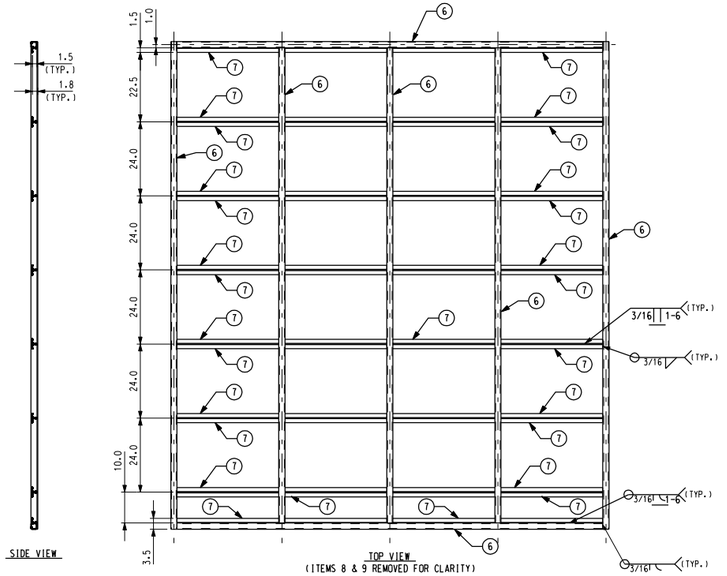
EG&G Contract No. DACA87-89-C-0076

Rev. 0A

DRAWING STATUS									
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJ. ENGR.	LEAD ENGR.	PROJ. MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

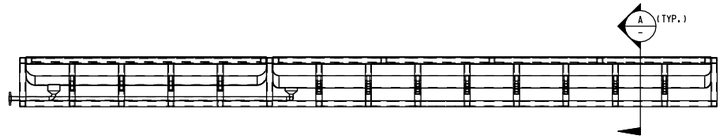


EXPLODED ISOMETRIC ASSEMBLY



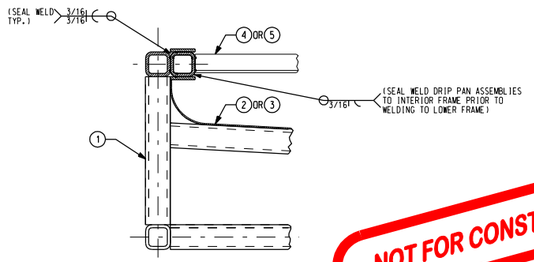
ITEM ⑤

SORTING ROOM INTERIOR FRAME WELDMENT



ASSEMBLY FRONT VIEW

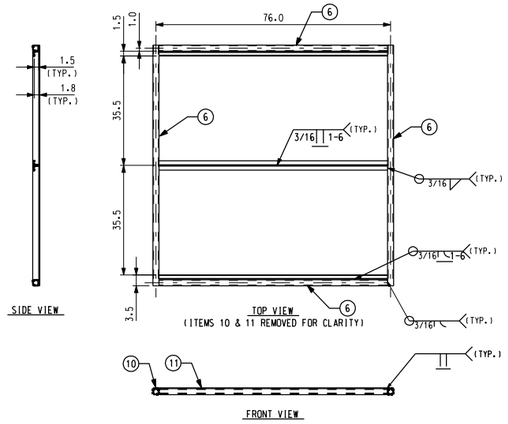
ASSEMBLY SIDE VIEW



SECTION A
(TYPICAL SECTION)

NOTES:

1. PAINT PER SPECIFICATION 09900.



ITEM ④

AIRLOCK INTERIOR FRAME WELDMENT

QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM
				13
				12
2	PLATE, 1/4"x2"x74", CS			11
2	PLATE, 1/4"x2"x78", CS			10
2	PLATE, 1/4"x2"x138", CS			9
2	PLATE, 1/4"x2"x158", CS			8
AS REQ'D	ANGLE, 1 1/2"x1 1/2"x3/16", CS			7
AS REQ'D	HSS, 2"x2"x1/4", A500 GR. B, CS			6
1	SORTING ROOM INTERIOR FRAME WELDMENT		THIS SHEET	5
2	AIRLOCK INTERIOR FRAME WELDMENT		THIS SHEET	4
1	SORTING ROOM DRAIN PAN ASSEMBLY		EG-22-M-8222	3
2	AIRLOCK DRAIN PAN ASSEMBLY		EG-22-M-8221	2
1	LOWER FRAME ASSEMBLY		EG-22-M-8223	1

Bill of Material

Symbol	Description	Date	Approved
0A	ISSUED FOR CONSTRUCTION		

Revisions

NOT FOR CONSTRUCTION

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

EG&G A Division of URS

US Army Corps of Engineers

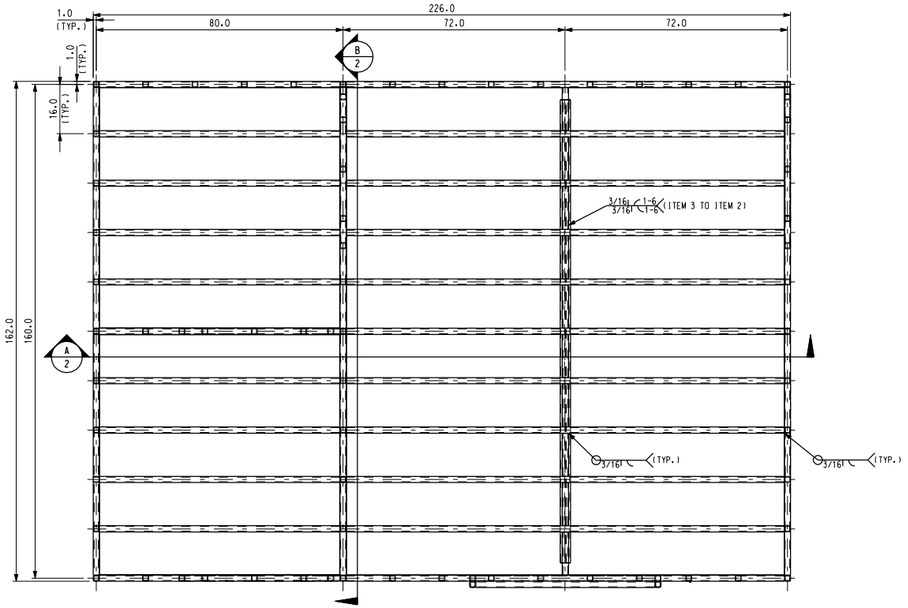
TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - LOWER ENCLOSURE ASSEMBLY

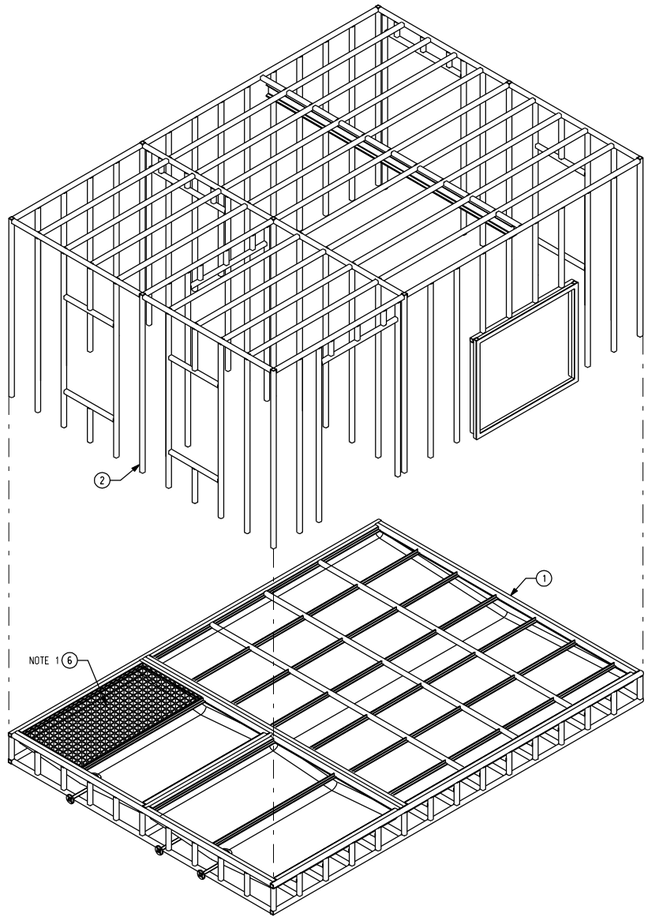
Drawn by: SD NICHOLES	Date: 06/30/08			
Checked by:	EG&G Approved:	Scale: NO SCALE	Sheet reference number: EG-22-M-8224	EG&G Contract No. DACA87-89-C-0076
Engineer:	PMCD Mgr. Concur: N/A		Sheet 1 of 1	Rev. 0A

DRAWING STATUS

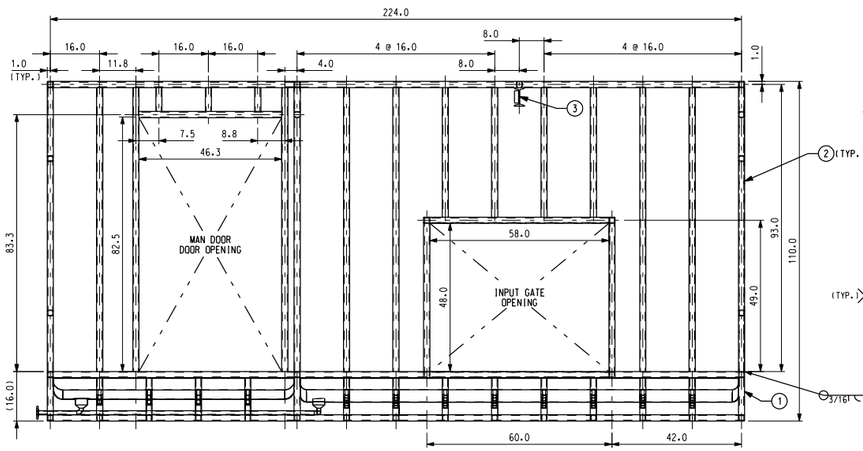
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJ./ ENGR.	LEAD ENGR.	PROJ./ MGR.	D.A.D.C. MGR.
OA	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						



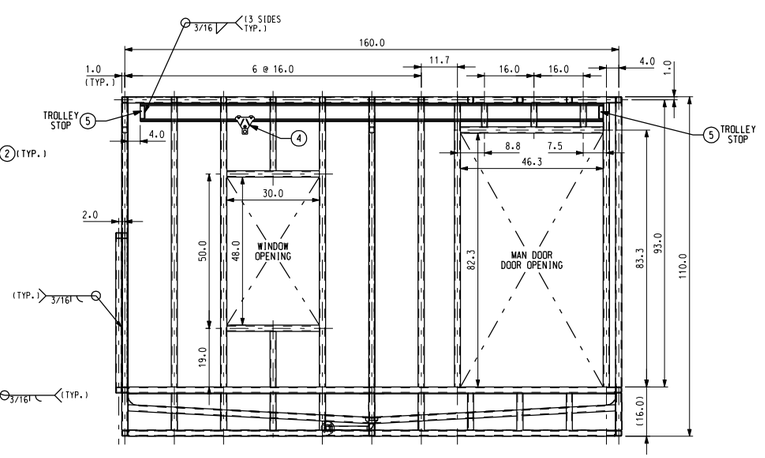
TOP VIEW



EXPLODED ISOMETRIC VIEW



FRONT VIEW



RIGHT SIDE VIEW

NOTES:

1. CUT FIBERGRATE GRATING PANELS SO THAT THEY CAN SLIP DOWN WITHIN SUPPORTS. TYPICAL 18 PLC'S.

NOT FOR CONSTRUCTION

QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM
				13
				12
				11
				10
				9
				8
				7
AS REQ'D	FIBERGLASS GRATING, 1 1/2"x1 1/2" SQUARES x 1 1/2" THK.	FIBERGRATE	VI-CORR	6
2	ANGLE, 3/16"x1 1/2"x1 1/2"x4" LONG, CS			5
1	MANUAL ROLLING TROLLEY, 1000LBS CAP	McMASTER CARR	9482T74	4
1	BEAM, S6x12.5x150.0", CS			3
AS REQ'D	HSS, 2"x2"x1/4", A500 GR. B, CS			2
1	LOWER ENCLOSURE ASSEMBLY		EG-22-M-8224	1

Bill of Material

Symbol	Description	Date	Approved
OA	ISSUED FOR CONSTRUCTION		

Revisions

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

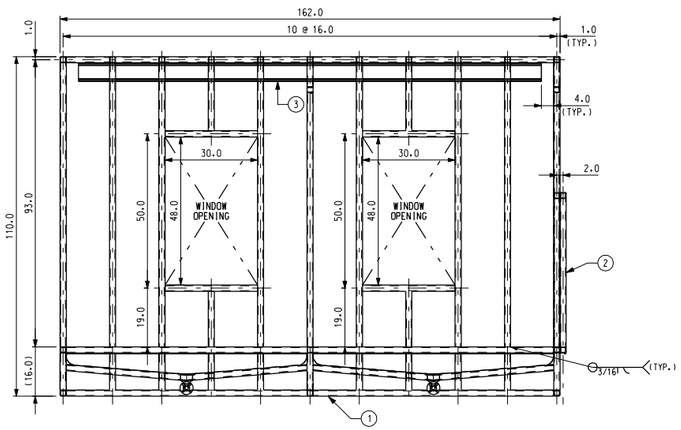
EG&G A Division of URS

US Army Corps of Engineers

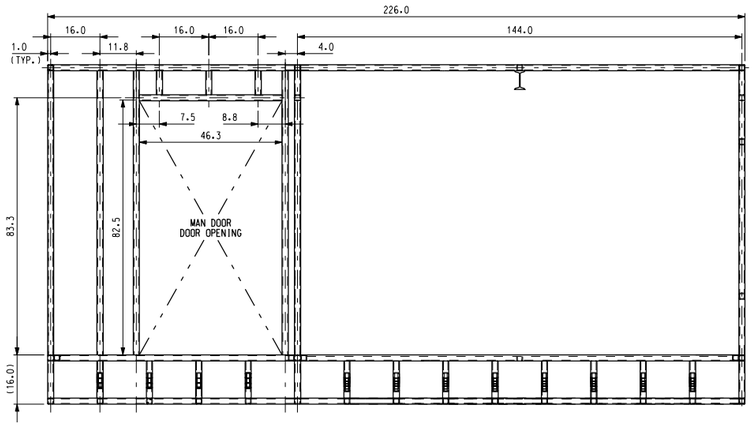
TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - ENCLOSURE FRAME ASSEMBLY

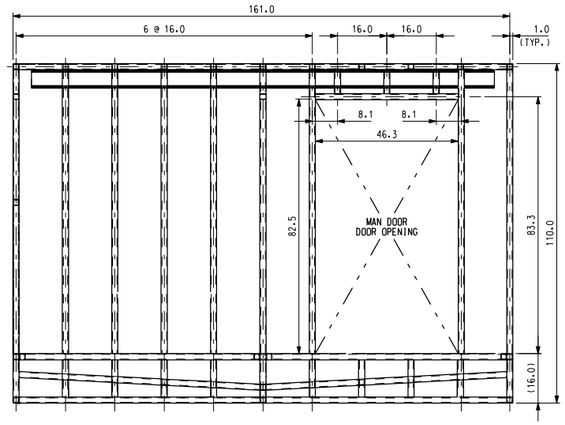
Drawn by:	Date:			
SD NICHOLES	06/30/08			
Checked by:	EG&G Approved:	Scale:	Sheet reference number:	EG&G Contract No. DACA87-89-C-0076
Engineer:	PMCD Mgr. Concur: N/A	NO SCALE	EG-22-M-8225	Sheet 1 of 1 / Rev. OA



LEFT SIDE VIEW



SECTION A



SECTION B

NOTES:

1. SEE SHEET 1 FOR NOTES AND MATERIALS LIST.

DRAWING STATUS

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJ. ENGR.	LDC ENGR.	PROJ. MGR.	O.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

NOT FOR CONSTRUCTION

Symbol	Description	Date	Approved
	Revisions		
0A	ISSUED FOR CONSTRUCTION		

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
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SACRAMENTO, CALIFORNIA

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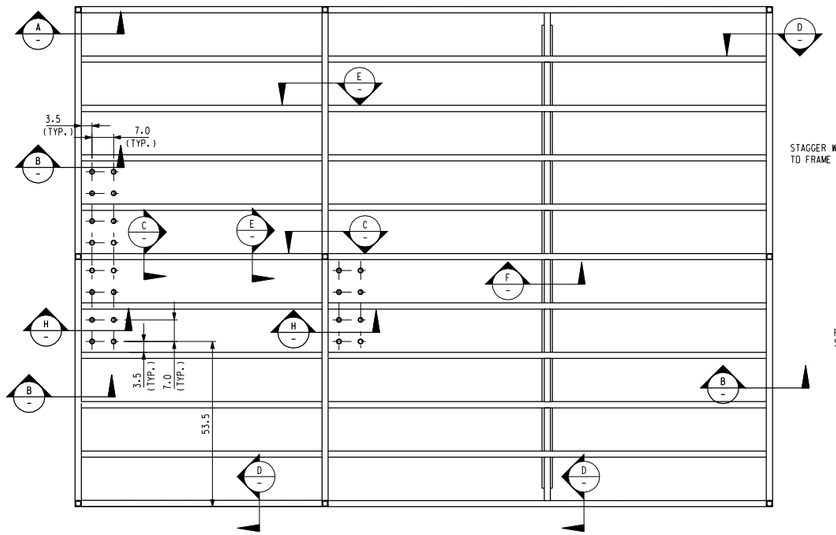
TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - ENCLOSURE FRAME ASSEMBLY

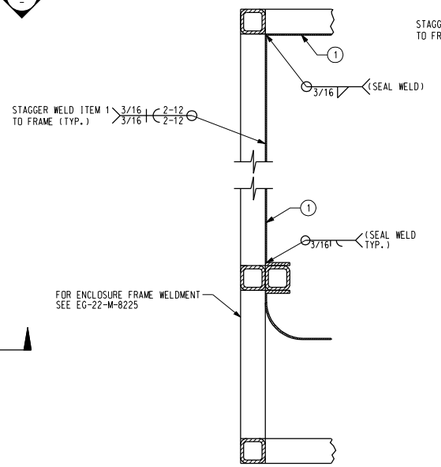
Drawn by: SD NICHOLES	Date: 06/30/08			
Checked by:	EG&G Approved:	Scale: NO SCALE	Sheet reference number: EG-22-M-8225	EG&G Contract No. DACA87-89-C-0076
Engineer:	PMCD Mgr. Concur: N/A		Sheet 2 of 2	Rev. 0A

DRAWING STATUS

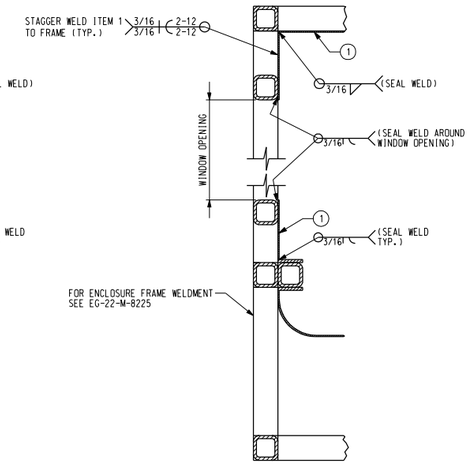
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJ. ENGR.	LIC ENGR.	PROJ. MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						



TOP VIEW



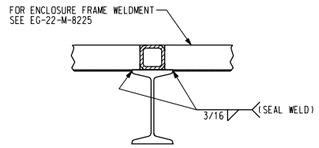
SECTION A
TYPICAL WALL SHEET TO FRAME WELDMENT



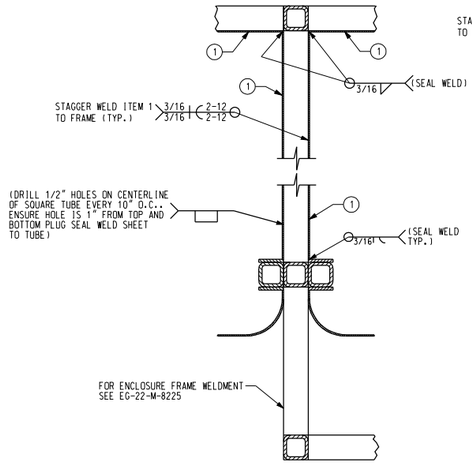
SECTION B
TYPICAL WALL SHEET TO FRAME WELDMENT AT WINDOW

NOTES:
1. PAINT PER SPECIFICATION 09900.

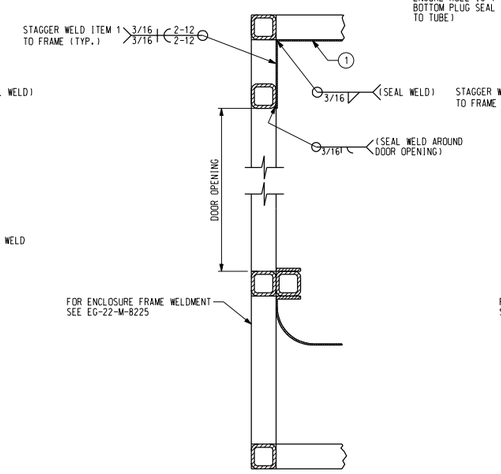
NOT FOR CONSTRUCTION



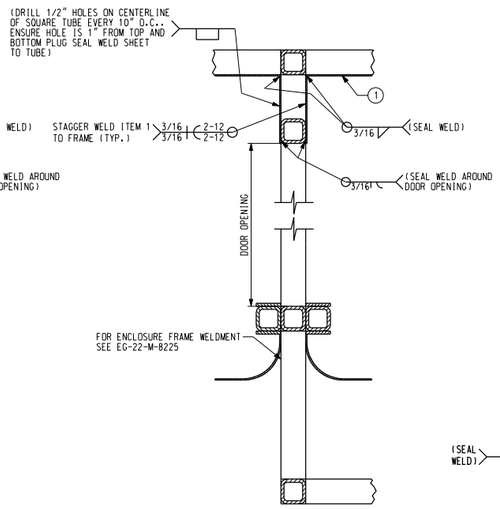
SECTION F
TYPICAL SHEET TO FRAME WELDMENT AT LIFTING BEAM



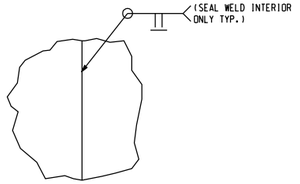
SECTION C
TYPICAL INTERIOR WALL SHEET TO FRAME WELDMENT



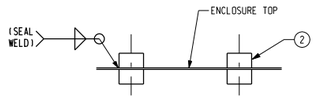
SECTION D
TYPICAL WALL SHEET TO FRAME WELDMENT AT DOOR



SECTION E
TYPICAL INTERIOR WALL SHEET TO FRAME WELDMENT AT DOOR



SECTION G
TYPICAL SHEET TO SHEET WELDMENT



SECTION H

				13
				12
				11
				10
				9
				8
				7
				6
				5
				4
				3
24	1" PIPE COUPLING			2
AS REQ'D	SHEET, 12 GA, 48"x96", CS			1
QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM

Bill of Material

Symbol	Description	Date	Approved
0A	ISSUED FOR CONSTRUCTION		

Revisions

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
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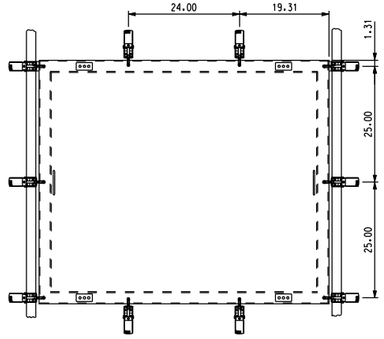
TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - ENCLOSURE SKIN ASSEMBLY

Drawn by: SD NICHOLES	Date: 08/04/08		
Checked by:	EG&G Approved:	Scale: NO SCALE	Sheet reference number: EG-22-M-8226
Engineer:	PMCD Mgr. Concur: N/A		Sheet 1 of 1

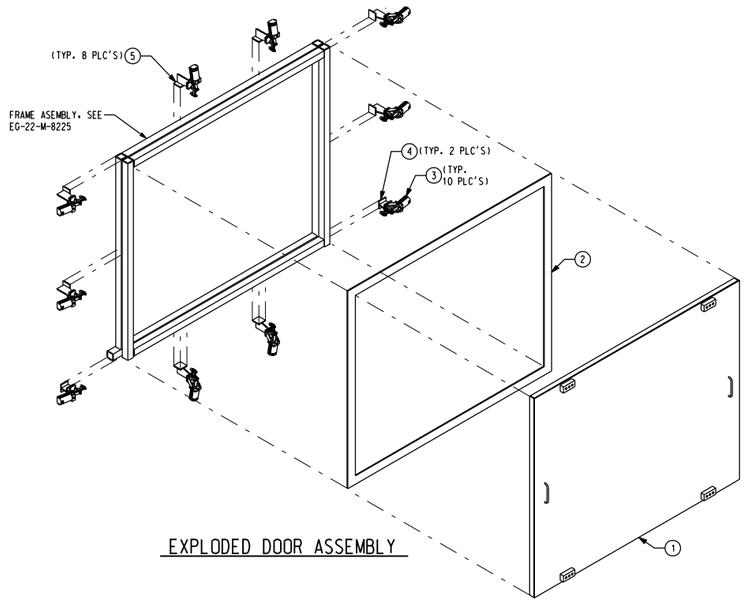
EG&G Contract No. DACA87-89-C-0076

Rev. 0A

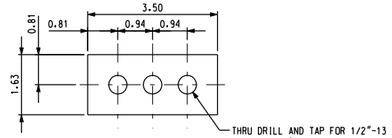


DOOR ASSEMBLY FRONT VIEW

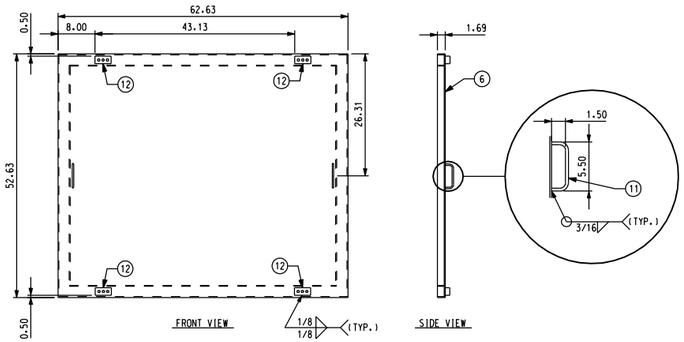
DOOR ASSEMBLY SIDE VIEW

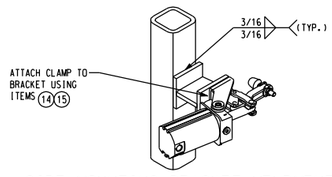


EXPLODED DOOR ASSEMBLY

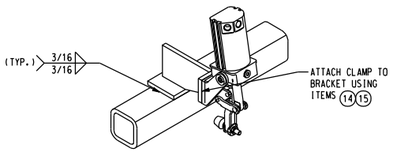


ITEM ⑫

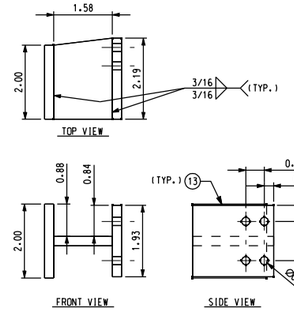




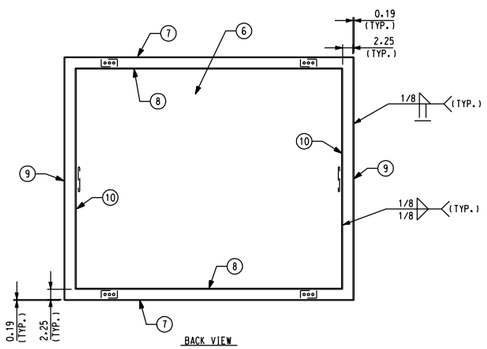
SIDE MOUNTING BRACKET WELDMENT



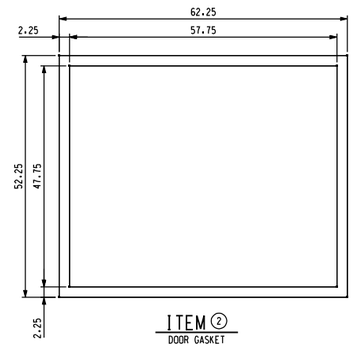
TOP/BOTTOM/SIDE MOUNTING BRACKET WELDMENT



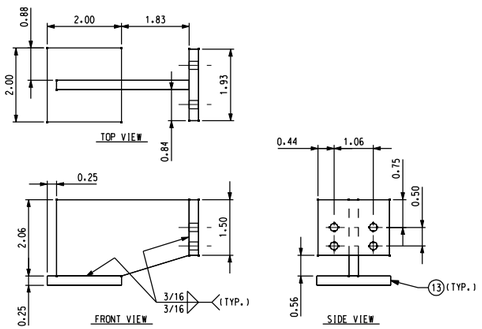
ITEM ④
SIDE CLAMP MOUNTING BRACKET



ITEM ①
DOOR ASSEMBLY



ITEM ②
DOOR GASKET



ITEM ⑤
TOP/BOTTOM/SIDE CLAMP MOUNTING BRACKET

NOTES:

1. ALL BEND RELIEFS TO BE MINIMUM.
2. CONDITION PARTS FOR SAFE HANDLING NO CUTTING EDGES PERMISSIBLE.
3. CLEAN AND PREPARE WELD SURFACES TO COMPLY WIH WELD CALLOUTS AND APPLICABLE SPECIFICATIONS.
4. PARTS TO BE CLEAN OF ANY WELD SPLATTER.

NOT FOR CONSTRUCTION

40	LOCK NUT, #10-24, CS	McMASTER CARR	90675A011	15
40	MACHINE SCREW, #10-24 x 1", CS	McMASTER CARR	93075A247	14
AS REQ'D	PLATE, 1/4", CS			13
4	PLATE, 1"x1.63"x3.5", CS			12
2	ROD, 5/16" DIA. x 9", CS, BENT			11
2	PLATE, 3/16"x47.38"x1.50", CS			10
2	PLATE, 3/16"x52.25"x1.50", CS			9
2	PLATE, 3/16"x57.75"x1.50", CS			8
2	PLATE, 3/16"x62.63"x1.50", CS			7
1	PLATE, 3/16"x62.63"x52.63", CS			6
8	TOP/BOTTOM/SDE CLAMP MOUNTING BRACKET			5
2	SIDE CLAMP MOUNTING BRACKET			4
10	PNEUMATIC CLAMP	DE-STA-CO	802-U	3
1	DOOR GASKET, EPDM, 40 DUROMETER			2
1	DOOR ASSEMBLY			1
QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM

Bill of Material

DRAWING STATUS

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJ/SUP ENGR.	PROJ./ ENGR.	LDC ENGR.	PROJ./ MGR.	O.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
BREAK SHARP EDGES = .005/.015
DECIMAL TOLERANCE AFTER FINISH
.x =±.1
.xx =±.06
.xxx =±.015
ANGLES =30'-30'

Symbol	Description	Date	Approved
0A	ISSUED FOR CONSTRUCTION		

Revisions

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

EG&G A Division of URS

US Army Corps of Engineers

TOOELE ARMY DEPOT
TOOELE, UTAH

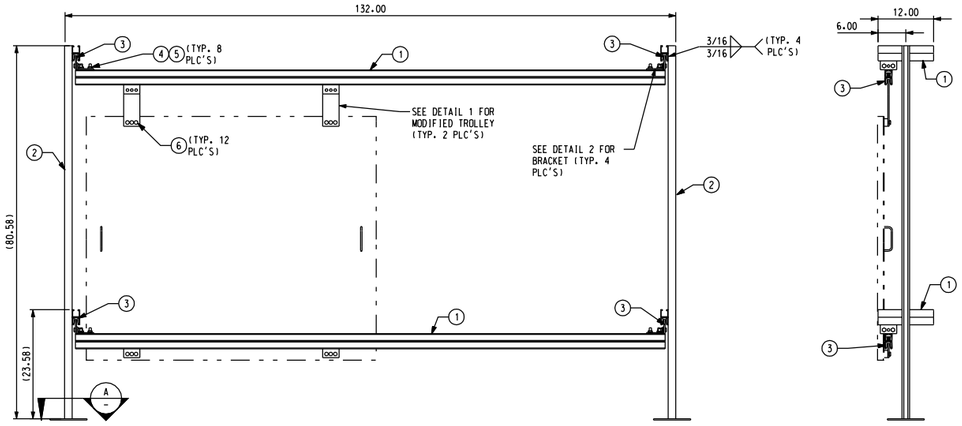
CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - DOOR ASSEMBLY

Drawn by:	Date:	Scale:	Sheet reference number:	EG&G Contract No.
SD NICHOLES	08/04/08	NO SCALE	EG-22-M-8227	DACA87-89-C-0076
Checked by:	EG&G Approved:			Sheet 1 of 1
Engineer:	PMCD Mgr. Concur: N/A			Rev. 0A

DRAWING STATUS

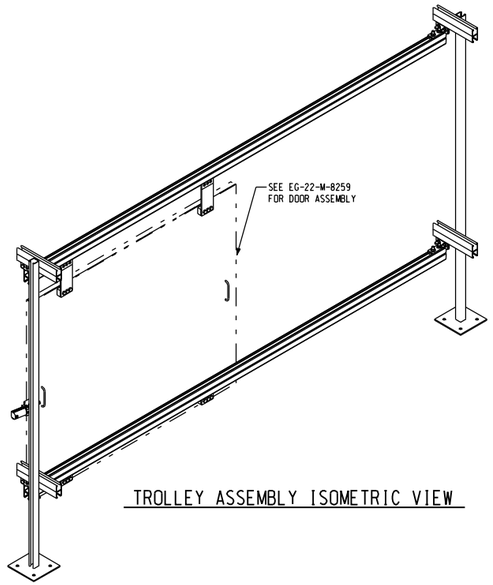
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJ/SYS ENGR.	PROJ/ ENGR.	LOG ENGR.	PROJ/ MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

TROLLEY ASSEMBLY TOP VIEW



TROLLEY ASSEMBLY FRONT VIEW

TROLLEY ASSEMBLY SIDE VIEW



TROLLEY ASSEMBLY ISOMETRIC VIEW

NOTES:

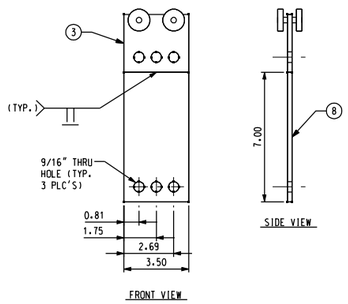
1. FIELD FABRICATE TROLLEY ONCE DVS ENCLOSURE IS INSTALLED IN THE FIELD.
2. ALL BEND RELIEFS TO BE MINIMUM.
3. CONDITION PARTS FOR SAFE HANDLING NO CUTTING EDGES PERMISSIBLE.
4. CLEAN AND PREPARE WELD SURFACES TO COMPLY WIH WELD CALLOUTS AND APPLICABLE SPECIFICATIONS.
5. PARTS TO BE CLEAN OF ANY WELD SPLATTER.

NOT FOR CONSTRUCTION

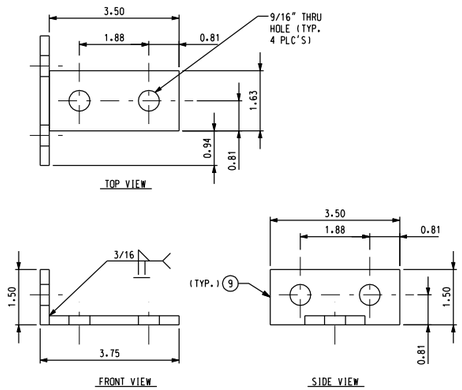
QTY	DESCRIPTION	MANUFACTURER	PART NUMBER	ITEM
				15
				14
				13
				12
				11
2	PLATE, 1/4"x8"x8", CS			10
AS REQ'D	PLATE, 1/4", CS			9
2	PLATE, 1/4"x3.5"x7", CS			8
8	CAP SCREW, 1/2"-13 x 1.5", CS	McMASTER CARR	91286A318	7
12	CAP SCREW, 1/2"-13 x 1", CS	McMASTER CARR	91286A319	6
16	NUT, 1/2"-13, CS	McMASTER CARR	95010A150	5
8	CHANNEL STUD NUT WITH SPRING, 1/2"-13x1.25"	UNISTRUT	P2381-3	4
8	TROLLEY ASSEMBLY	UNISTRUT	P2950	3
AS REQ'D	UNISTRUT, 1 5/8"	UNISTRUT	P1000	2
AS REQ'D	UNISTRUT COMBINATION, 1 5/8"	UNISTRUT	P1001 T	1

Bill of Material

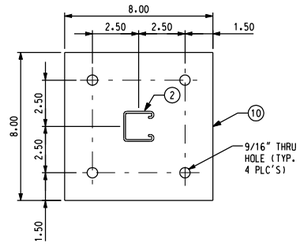
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
BREAK SHARP EDGES - -.005/-.015
DECIMAL TOLERANCE AFTER FINISH
.X =±.1
.XX =±.06
.XXX =±.015
ANGLES =±0°-30'



DETAIL 1
(2 ASSEMBLIES REQ'D)



DETAIL 2
(4 ASSEMBLIES REQ'D)



SECTION A

Symbol	Description	Date	Approved
0A	ISSUED FOR CONSTRUCTION		

Revisions

DEPARTMENT OF THE ARMY
PROGRAM MANAGER FOR
CHEMICAL DEMILITARIZATION
ABERDEEN PROVING GROUND, MARYLAND

US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
SACRAMENTO, CALIFORNIA

EG&G A Division of URS

US Army Corps of Engineers

TOOELE ARMY DEPOT
TOOELE, UTAH

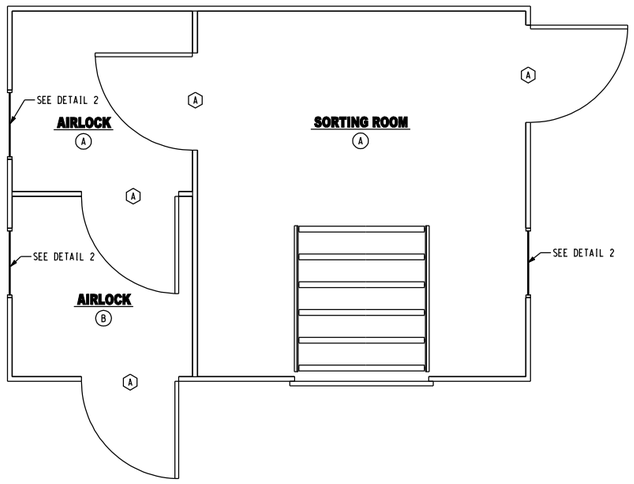
CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - DOOR TROLLEY ASSEMBLY

Drawn by:	Date:	Scale:	Sheet reference number:	EG&G Contract No.
SD NICHOLES	08/04/08	NO SCALE	EG-22-M-8228	DACA87-89-C-0076

Checked by:	EG&G Approved:		Sheet	Rev.
Engineer:	PMCD Mgr. Concur: N/A		1 of 1	0A

DRAWING STATUS

NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJECT ENGR.	PROJECT ENGR.	LDC ENGR.	PROJECT MGR.	D.A.D.C. MGR.
0A	06/30/08	ISSUED PER EWO 379604 & ECP 4554	SDN						

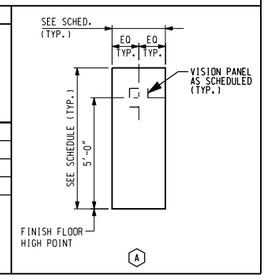


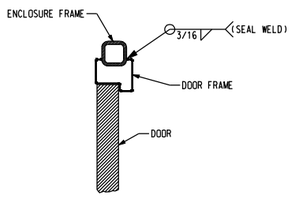
GENERAL PLAN

DOOR SCHEDULE

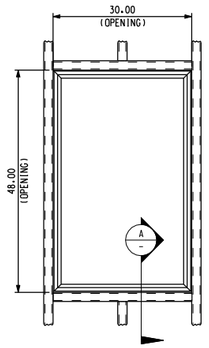
TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THICKNESS	DOOR MATERIAL 1 HOLLOW METAL	2 STEEL	3 ALUMINUM	4 WOOD	5 GLASS	FRAME MATERIAL 1 HOLLOW METAL	2 STEEL	3 ALUMINUM	4 HOLLOW WOOD	5 METAL	GLAZING	FIRE RATING	HARDWARE SET NUMBER	REMARKS
A	3'-6"	6'-8"	1 3/4"	●					●					9" x 9"	3/4	NOTE 1	3" FRAME JAMB DEPTH

NOTES:
1. DOOR HARDWARE SHALL CONSIST OF: LEVER TYPE DOOR KNOB, CRASH BAR & HYDRAULIC DOOR CLOSERS (ADJUSTABLE TO PROVIDE MODERATE FORCE TO OPEN DOOR).
2. ALL DOORS AND HARDWARE TO BE PER SPECIFICATIONS: 08300-MISCELLANEOUS DOORS, 08700-HARDWARE:BUILDERS & 08110-STEEL DOORS AND FRAMES.

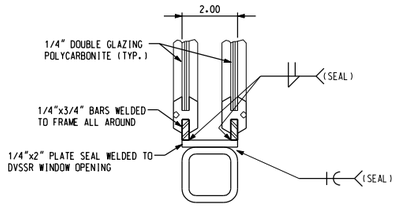




DETAIL 1
TYPICAL DOOR TO FRAME WELDMENT



NOTE:
WINDOWS TO BE FABRICATED IN ACCORDANCE WITH SPECIFICATION 08666 - OBSERVATION WINDOWS



DETAIL 2
TYPICAL WINDOW DETAIL

NOT FOR CONSTRUCTION

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
BREAK SHARP EDGES - .005/.015
DECIMAL TOLERANCE AFTER FINISH
.X =±.1
.XX =±.06
.XXX =±.015
ANGLES =±0°-30'

Symbol	Description	Date	Approved
	Revisions		
0A	ISSUED FOR CONSTRUCTION		

DEPARTMENT OF THE ARMY
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US ARMY ENGINEER DISTRICT SACRAMENTO
CORPS OF ENGINEERS
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EG&G A Division of URS

US Army Corps of Engineers

TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFF SITE
AREA 10 - SECONDARY WASTE SAMPLING (SWS)
DVSSR - DOOR & WINDOW DETAILS

Drawn by:	Date:				
SD NICHOLES	08/04/08				
Checked by:	EG&G Approved:	Scale:	Sheet reference number:	EG&G Contract No. DACA87-89-C-0076	
Engineer:	PMCD Mgr. Concur: N/A	NO SCALE	EG-22-M-8229	Sheet 1 of 1	Rev. 0A

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DRAWING STATUS								
NO.	DATE	REVISION DESCRIPTION	DRAWN	CHK.	PROJ/ENGR.	PROJ/ENGR.	LAB ENGR.	PROJ/MGT.	D.A.D.C. MGR.
1A	11/10/04	ISSUED FOR CONSTRUCTION	AD	DS		DS		MDN	STG
1B	5/02/06	REVISED AS BUILT	JBB	CDP		CKA		MSD	BAT
2	10/17/06	REVISED PER EWO 225128 & AREA 10	DLP	SRB		JRH			
3	12/14/07	REVISED PER EWO 367001 & FTC 340461	DLP	SDN		LRO			
4	10/25/07	REVISED PER EWO 350133	SDN	DLP		SL			
5	05/15/08	REVISED PER EWO 404562 & FTC 389184	SDN	DLP		LRO			
5A	07/21/08	REVISED PER EWO 379604 & ECP 4554	SDN						

FROM COMPRESSED AIR SYSTEM EG-22-D-8204/2

1/2"-V-9921

FCV 9219

FV 9219

PCV 9219 25 PSIG

FV 9112

FV 9113

FV 9210

FV 9111

PCV 9111 15 PSIG

PCV 9113 15 PSIG

PCV 9112 15 PSIG

EG-22-D-8205 TO DECON CIRC. PUMPS START/STOP CONTROL

PSH 9210

PS 9210

1/2"-V-9895

1/2"-V-9401

25 PSIG PCV 9401

LAHH LAH LI 9117

PUMP 117 PM 1/4"-V-9843

1 1/2"-V-236

LIT 9117 LE 9117

SPENT DECON CONTAINER

1-1/2"-V-280

1-1/2"-V-279

1/4"-V-9844

PUMP 116 PM

LAHH LAH LI 9116

1-1/2"

LIT 9116 LE 9116

1 1/2"-V-237

SPENT DECON CONTAINER

1/2"-V-9908

1/2"-V-9904

1/2"-V-9900

3/4"-V-9907

3/4"-V-9903

3/4"-V-9899

3/4"-V-????

(TYP. OF 8) SP ??? (LEFT) E F (BOTTOM) A B INPUT GATE C D (TOP) G H (RIGHT)

HS ???? XV ???? S VENT PCV ???? 60 PSIG

DVS-101 DRUM VENTILATION SYSTEM

DVS-102 DRUM VENTILATION SYSTEM

"B" AIRLOCK

"A" AIRLOCK

SORTING ROOM

DVSSR-103 DRUM VENTILATION SYSTEM SORTING ROOM

IA PW DC

1"-V-????

3/4"-V-9201

3/4"-V-9204

3/4"-V-9207

1"-V-9865

1"-V-9863

1"-V-9861

1"-V-9928

1"-V-9930

1"-V-9932

1"-V-295

1"-V-294

1"-V-293

1"-V-292

1"-V-291

1"-V-290

1"-V-9864

1"-V-9862

1"-V-9860

1/2" A

3/4"

1"

1/4"-V-9838

1/4"-V-9837

1/4"-V-9841

1/4"-V-9842

1/4"-V-9840

1/4"-V-9839

PUMP 108 PM

PUMP 109 PM

PUMP 113 PM

1" DC RETURN TO DECON SYSTEM EG-22-D-8205

1" DC SUPPLY EG-22-D-8205

1-1/2"-V-9212 1-1/2" FROM MECH EQUIP ROOM

1-1/4" WTR

1-1/4"-V-9210

3/8"

3/8"-V-9211

WHTR-102

SSEW-102 SAFETY SHOWER/ EYEWASH STATION

1-1/2" SPENT DECON

SOUTH IGLOO - BUILDING 1632

PUMP-116 AND PUMP-117 SPENT DECON SOLUTION PUMPS RATED = 15 GPM, DP = 15 FEET MATERIAL = PLASTIC MOTOR = AIR OPERATED

PUMP-108, PUMP-109, AND PUMP-113 SPENT DECON SOLUTION PUMPS RATED = 5 GPM, DP = 15 FEET MATERIAL = PLASTIC MOTOR = AIR OPERATED

SPENT DECON CONTAINER TOTAL VOLUME = 360 GALLONS WORKING VOLUME = 250 GALLONS MATERIAL = POLYETHYLENE

50% DESIGN REVIEW

NOTES:

1. ALL INSTUMENTS, VALVES, AND EQUIPMENT TAG NUMBERS ARE PREFIXED WITH A10-.

Symbol	Description	Date	Approved
	Revisions		
5A	REVISED FOR CONSTRUCTION		
5	REVISED AS BUILT	05/16/08	LRO
4	REVISED AS BUILT	01/11/08	SL
3	REVISED AS BUILT	12/14/07	LRO
2	REVISED AS BUILT	7/31/07	JRH
1B	REVISED AS BUILT	5/02/06	MSD
1A	ISSUED FOR CONSTRUCTION	11/10/04	MDN

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TOOELE ARMY DEPOT
TOOELE, UTAH

CHEMICAL STOCKPILE DISPOSAL PROGRAM
OFFSITE
AREA 10 - 1632
P&ID - SHEET #3

Drawn by: MW/AFD	Date: / /				
Checked by: DB	EG&G Approved:	Scale: NO SCALE	Sheet reference number: EG-22-D-8204	EG&G Contract No. DACA87-89-C-0076	
Engineer: DS	PMCD Mgr. Concur: N/A			Sheet 1 of 2	Rev. 5A

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